XR-C6100

SERVICE MANUAL

Saudi Arabia Model

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol ᗡᗡ are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-25F-136

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 20,000 Hz
Signal-to-noise ratio	

Cassette type	Dolby B NR	Dolby NR off
TYPE II, IV	67 dB	61 dB
TYPE I	64 dB	58 dB

Tuner section

FM

Tuning range	FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	
	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

MW

Tuning range	MW tuning interval: 9kHz/10kHz switchable 531 – 1,602 kHz (at 9kHz step) 530 – 1,710 kHz (at 10kHz step)

SW

Tuning range	SW tuning interval: SW1: 2,940 – 7,735 kHz SW2: 9,500 – 18,135 kHz (except for 10,140 – 11,575 kHz)
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	40 µV

– Continued on next page –

FM/MW/SW CASSETTE CAR STEREO

MICROFILM

SONY®

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	40 W × 4 (at 4 ohms)

General

Outputs	Power aerial control lead Power amplifier control lead LINE OUT Rear (1) Front (1)
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 188 × 58 × 181 mm (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 164 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Wireless Remote Commander RM-X47 Front panel case (1)

Design and specifications are subject to change without notice.

TABLE OF CONTENTS

1. GENERAL
Location of Controls 3
Installation 4
Connections 5

2. DISASSEMBLY 8

3. ASSEMBLY OF MECHANISM DECK 10

4. MECHANICAL ADJUSTMENTS 13

5. ELECTRICAL ADJUSTMENTS
Test Mode 13
Tape Deck Section 13
Tuner Section 14

6. DIAGRAMS
6-1. IC Pin Function Description 17
6-2. Note for Printed Wiring Boards and Schematic Diagram 20
6-3. Printed Wiring Board – MAIN Section – 21
6-4. Schematic Diagram – MAIN Section (1/2) – 23
6-5. Schematic Diagram – MAIN Section (2/2) – 25
6-6. Printed Wiring Board – PANEL Section – 27
6-7. Schematic Diagram – PANEL Section – 29

7. EXPLODED VIEWS 33

8. ELECTRICAL PARTS LIST 36

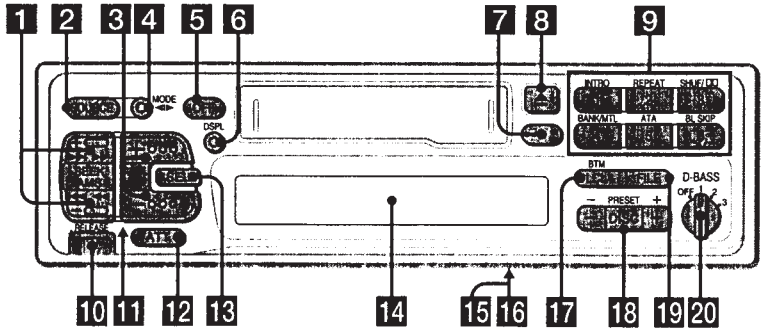
Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Location of controls



EN

Refer to the pages for further details.

1 SEEK/AMS button 6, 7, 8, 11, 13

2 SOURCE button (TAPE/TUNER/CD/MD) 6, 7, 8, 11, 13

3 ⊕⊖ (volume/bass/treble/left-right/front-rear control) button 5, 9, 10, 12, 13

4 MODE (◀I▶) button
During Tuner reception:
BAND select 7, 8

During Tape playback:
Transport direction change 6

During CD/MD playback:
Unit select 11

5 OFF button 4, 5, 6

6 DSPL (display mode change/time set) button 5, 6, 8, 9, 11, 13

7 Receptor for wireless remote

8 ⏏ (eject) button 6

9 During radio reception:
Preset number buttons 8

During tape/CD/MD playback:
① INTRO button 6, 11
② REPEAT button 6, 11, 12
③ SHUF/DD (Shuffle/Dolby B NR) button 7, 12
④ BANK/MTL button 7, 13
⑤ ATA (Automatic Tuner Activation) button 7
⑥ BL SKIP (Blank Skip) button 7

10 RELEASE (front panel release) button 4, 15

11 Reset button (located on the front side of the unit hidden by the front panel)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

12 ATT button 10

13 SEL (control mode select) button 5, 9, 10, 12, 13

14 Display window

15 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.

16 Frequency Select switch (located on the bottom of the unit)
See "Frequency Selet switch" in the Installation/Connections manual.

17 LCL/BTM (local seek/Best tuning memory function) button 7, 8

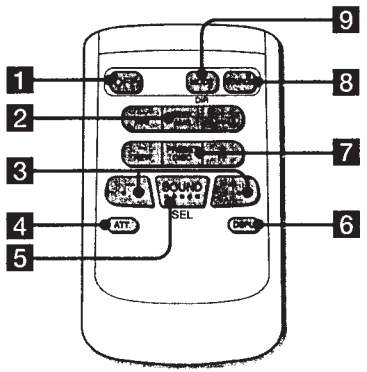
18 PRESET/DISC button
During Tuner reception:
Preset station select 8

During CD/MD playback:
Disc change 11

19 FILE (custom file mode select • set) button 8, 9, 12, 13

20 D-BASS control 10

Wireless Remote Commander (RM-X47)



1 OFF button

2 SEEK/AMS button
You cannot do the manual search and manual tuning with the remote commander.

3 ⊕ ⊖ button

4 ATT button

5 SOUND/SEL button

6 DSPL button

7 PRESET/DISC button

8 SOURCE button
Press to select program sources.
Each time the button is pressed, the program source mode changes as follows:

TAPE → TUNER → CD* → MD* → TAPE

* *When the CD/MD unit is connected.*

9 MODE/DIR button

During Tape playback:
Changes the playback side of the cassette.

During CD/MD playback:
Selects CD/MD units when several CD/MD units are connected.

During radio reception:
Changes preset groupes within band received.

FM1 → FM2 → FM3 → MW → SW1 → SW2 → FM1

The unit cannot be operated with the wireless remote commander unless the SOURCE button on the unit is pressed or a cassette is inserted to activate the unit first.

This section is extracted from instruction manual.

Installation

التركيب

Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are used for tuner adjustments to be made only by service technicians.
- Choose the installation location carefully so that the unit will not interfere with driving.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

تنبيهات إحتياطية

- لا تعبث بالثقوب الاربعة الموجودة على السطح العلوي للوحدة تستخدم هذه الثقوب لعمليات ضبط موالف البثّ التي يجريها فنّي الصيانة
- قم باختيار موقع التركيب بعناية بحيث لا تكون عائقاً اثناء قيادة السيارة.
- تجنب تركيب الوحدة حيث تكون معرضة لدرجات حرارة مرتفعة، كأن تتعرض لضوء الشمس المباشر او للهواء الساخن من الدفاية، او حيث تتعرض للغبار او الاوساخ او الاهتزازات الزائدة
- لا تستعمل مسلزمات تركيب غير تلك المجهزة وذلك لضمان السلامة والتركيب الآمن.

ضبط زاوية التركيب

اضبط زاوية التركيب اقل من ٢٠°.

How to Detach and Attach the Front Panel

Before installing the unit, detach the front panel.

To detach

Press (RELEASE) to detach the front panel then gently pull it out.

To attach

Align parts Ⓐ and Ⓑ, and push the front panel in until it clicks.

كيفية نزع وتركيب اللوحة الامامية

قبل تركيب الوحدة، إنزع اللوحة الامامية.

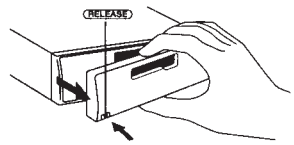
للنزع

إضغط زر التحرير (RELEASE) لنزع اللوحة الامامية ثم اسحبها برفق للخارج

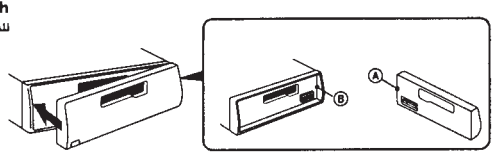
للتركيب

قم بمحاذاة الاجزاء Ⓐ و Ⓑ وادفع اللوحة الامامية الى الداخل الى ان تصدر عنها طقة

To detach
للنزع



To attach
للتركيب

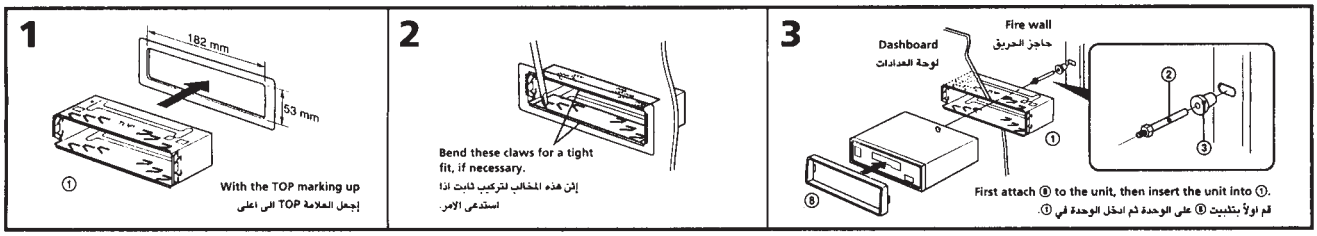


Mounting Example

Installation in the dashboard

مثال على التركيب

التركيب على لوحة العدادات

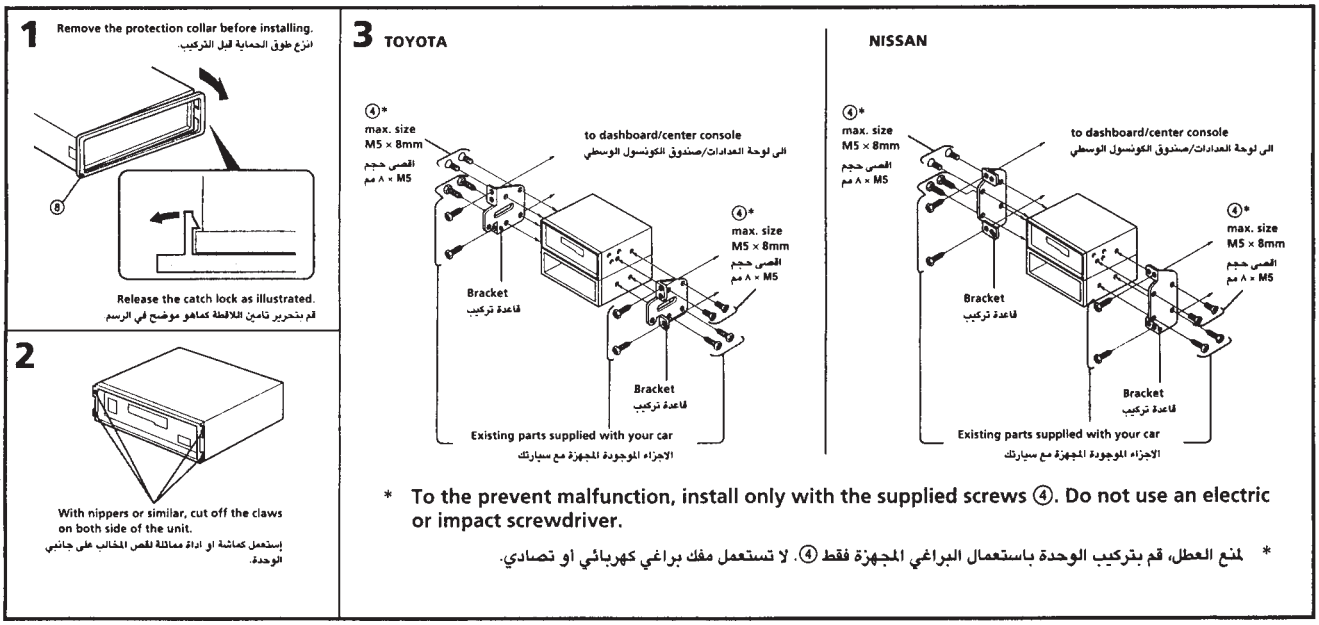


Mounting the Unit in a Japanese Car

This unit may not be installed in some makes of cars. In this case, consult your nearest Sony dealer.

تركيب الوحدة في سيارة يابانية

هذه الوحدة لا يمكن تركيبها في بعض انواع السيارات. في تلك الحالة، قم باستشارة اقرب موزع لمنتجات سوني لديك.



* To the prevent malfunction, install only with the supplied screws ④. Do not use an electric or impact screwdriver.

* لمنع العطل، قم بتركيب الوحدة باستعمال البراغي المجهزة فقط ④. لا تستعمل مفك براغي كهربائي او تصادي.

Connection

التوصيل

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating.
  If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating.
  If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery.
  If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

تنبيهات

- هذه الوحدة مصممة للتشغيل على تيار مباشر ١٢ فولت بتأريض سالب فقط.
- قبل عمل التوصيلات، إفصل طرف توصيل الارضي الخاصة ببطارية السيارة لتفادي حدوث تماس كهربي.
- لا تقم بتوصيل اسلاك دخل التيار **الاصفر والاحمر** إلا بعد الانتهاء من توصيل جميع الاسلاك الاخرى.
- تأكد من توصيل سلك دخل التيار الاحمر بطرف التيار ١٢ فولت الموجب الذي يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي (وضع الكماليات).
- **قم بتمديد جميع اسلاك التأريض الى نقطة تأريض مشتركة.**
- قم بتوصيل السلك الاصفر بدائرة كهربائية غير مستعملة في السيارة بمعايرة تزيد عن معايرة فيوز الوحدة.
  اذا قمت بتوصيل الوحدة على التوالي مع اجهزة ستيريو اخرى، فيجب ان تكون الدائرة الكهربائية التي يتم توصيلها بها بمعايرة اعلى من مجموع معايرات فيوزات الاجهزة الموصلة.
  اذا لم توجد دائرة كهربائية في السيارة بمعايرة تساوي معايرة فيوز الوحدة، قم بتوصيل الوحدة بالبطارية مباشرة.
  اذا لم توجد دائرة كهربائية لتوصيل الوحدة، قم بتوصيل الوحدة بدائرة كهربائية في السيارة بمعايرة اعلى من معايرة فيوز الوحدة بطريقة تحول دون قطع اي دوائر اخرى في حالة احتراق فيوز الوحدة.

If your car has no accessory position on the ignition key switch

— POWER SELECT switch

The illumination on the front panel is factory set to be turned on even while the unit is not in use. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ⓑ position, then press the reset button.** The illumination is reset to stay off while the unit is not in use.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ⓑ position.

اذا كانت سيارتك لا تتضمن موضعاً ثانوياً في مفتاح تشغيل المحرك

— مفتاح اختيار التيار POWER SELECT

الاضاءة الموجودة على اللوحة الامامية مهيأة في المصنع بحيث تضاء حتى اثناء عدم استعمال الوحدة. على ان هذه التهيئة يمكن ان تتسبب في استهلاك شحنة بطارية السيارة **اذا كانت سيارتك لا تتضمن موضعاً ثانوياً (موضع الكماليات) في مفتاح تشغيل المحرك.** لتفادي استهلاك شحنة البطارية، **اضبط مفتاح اختيار التيار POWER SELECT الموجود بقاع الوحدة على الوضع ⓑ ثم اضغط زر اعادة التهيئة.** تعاد تهيئة الاضاءة بحيث تظل مطفأة اثناء عدم استعمال الوحدة.

ملاحظة

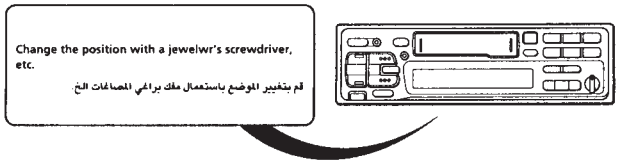
لا يتم تنشيط منبه تحذير اللوحة الامامية عند ضبط مفتاح إختيار المصدل POWER SELECT الوضع ⓑ.

Frequency select switch

The MW (FM) tuning interval is factory-set to the 9K (50 K) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10 K (200 K) position before making connections.

مفتاح اختيار التردد

مرحلة موالفة الموجة المتوسطة (إف إم) مهيأة في المصنع على ٩ كيلوهرتز (٥٠ كيلوهرتز) 9K (50K). اذا كان نظام تخصيص الترددات في بلدك يقوم على مراحل كل منها ١٠ كيلوهرتز (٢٠٠ كيلوهرتز)، اضبط المفتاح الموجود بقاع الوحدة على الوضع 10K (200K) قبل عمل التوصيلات.



When you change the position of the switch, be sure to press one of the reset button after the connections are complete.

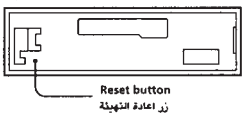
عند تغيير موضع مفتاح اختيار التيار POWER SELECT، تأكد من ضغط زر اعادة التهيئة

Reset button

When the installation and connections are complete, be sure to press the reset button with a ballpoint pen etc. The reset button is located on the left of the connector on the unit side when the front panel is detached.

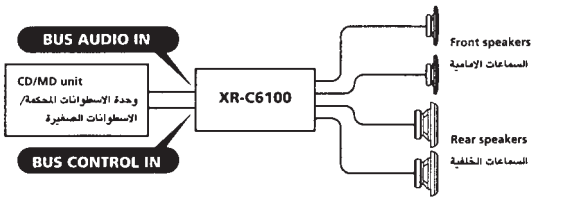
زر اعادة التهيئة

عند الانتهاء ممن التركيب والتوصيلات، تأكد من ضغط زر اعادة التهيئة باستعمال قلم جاف الخ. زر اعادة التهيئة موجود على يسار الموصل الموجود على جانب الوحدة عند نزع اللوحة الامامية.

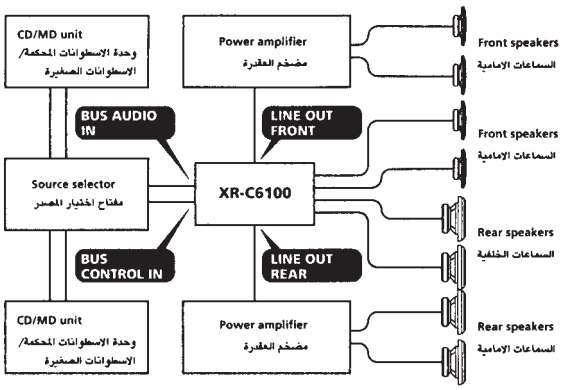


Connection diagram/مخطط التوصيل

Example 1/ مثال ١



Example 2/ مثال ٢



If you connect an optional power amplifier and do not use the built-in amplifier, the beep-tone will be disabled.
For connecting two or more changers, the source selector XA-C30 (optional) and the BUS cable RC-61 (1m) or RC-62 (2m) (optional) are necessary.

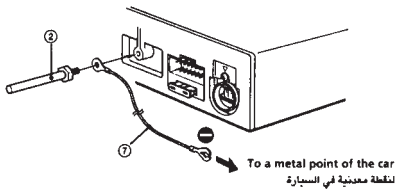
اذا قمت بتوصيل مضخم صوت اختياري ولم تستعمل مضخم الصوت الداخلي، يتم ايقاف تشغيل صوت التنبيه.
لتوصيل جهازي تغيير اسطوانات او اكثر، من الضروري استعمال وحدة اختيار المصدر XA-C30 (إختيارية) والكبل الجماعي RC-61 (١ متر) او RC-6 (٢ متر) (إختياريين).

Note for Connecting

If there is alternator noise (a whining sound when raising engine speed), ground the master unit by connecting it to a metal point of the car with the supplied chassis ground cord ⑦. Connect the ground cord to the master unit with part ② as shown in the illustration.

ملاحظة حول التوصيل

اذا صدر صوت ضوضاء عن المذاوب (صوت طن يصدر عند زيادة سرعة المحرك)، قم بتأريض الوحدة الرئيسية بتوصيلها لنقطة معدنية في السيارة بواسطة سلك تأريض الشاسي ⑦. قم بتوصيل سلك التأريض للوحدة الرئيسية بواسطة القطعة ② كما هو موضح بالرسم.

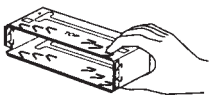


Caution

Cautionary notice for handling the bracket ①. Handle the bracket carefully to avoid injuring your fingers.

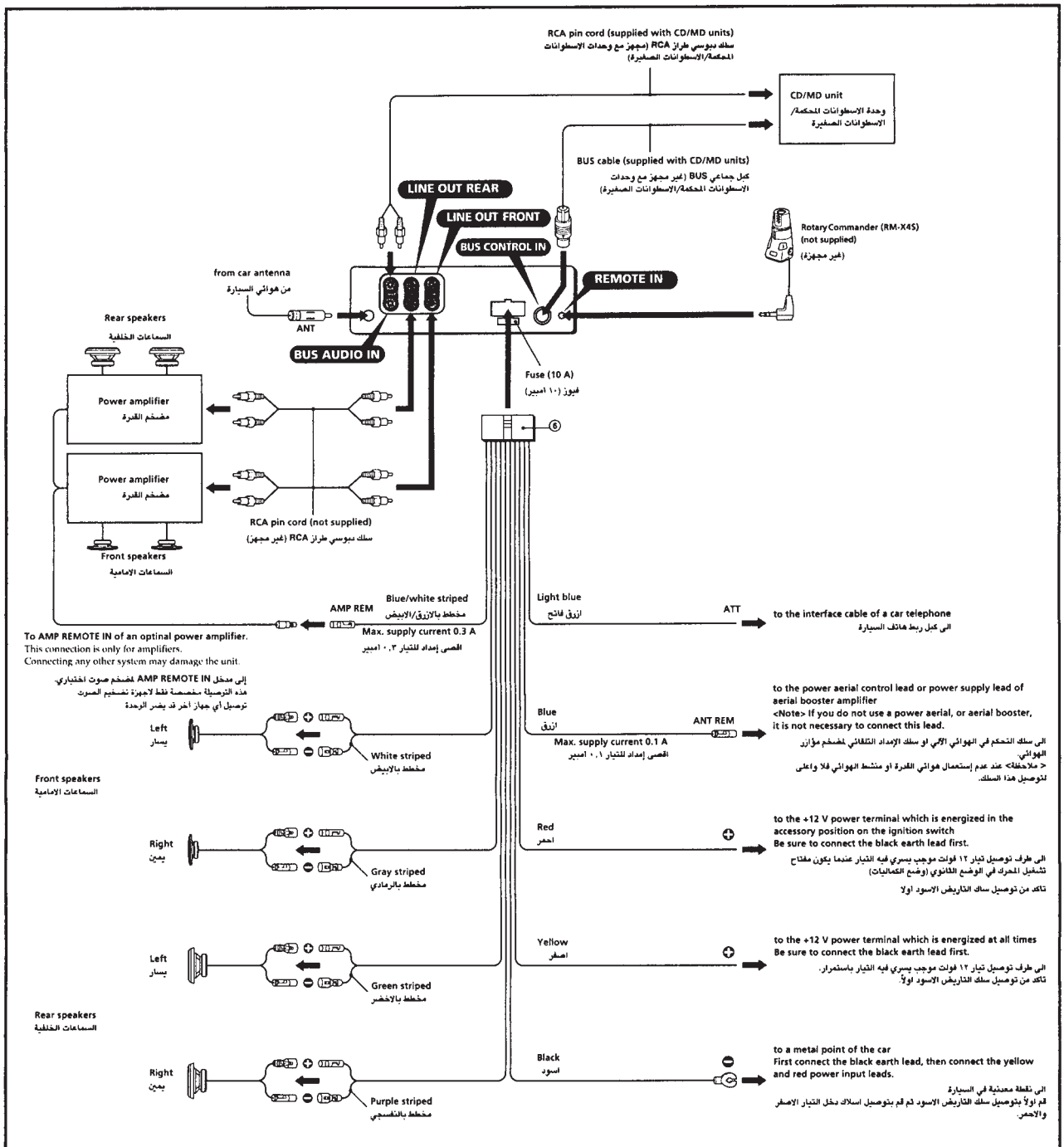
تنبيه

ملاحظة تحذيرية حول تناول قاعدة التركيب ①. تناول قاعدة التركيب بحرص لتفادي جرح اصابعك.



Connection example

مثال على التوصيل


RCA pin cord (supplied with CD/MD units)
سلك دبوسي طراز RCA (مجهز مع وحدات الاسطوانات المحكمة/الاسطوانات الصغيرة)
CD/MD unit
وحدة الاسطوانات المحكمة/الاسطوانات الصغيرة
BUS cable (supplied with CD/MD units)
كبل جماعي BUS (غير مجهز مع وحدات الاسطوانات المحكمة/الاسطوانات الصغيرة)
LINE OUT REAR
LINE OUT FRONT
BUS CONTROL IN
REMOTE IN
Rotary Commander (RM-X4S)
(not supplied)
(غير مجهزة)
from car antenna
من هوائي السيارة
ANT
BUS AUDIO IN
Rear speakers
السماعات الخلفية
Power amplifier
مضخم القدرة
Power amplifier
مضخم القدرة
RCA pin cord (not supplied)
سلك دبوسي طراز RCA (غير مجهز)
Front speakers
السماعات الامامية
Fuse (10 A)
فيوز (١٠ امبير)
AMP REM
Blue/white striped
مخطط بالازرق/الابيض
Max. supply current 0.3 A
القصى إمداد للتيار ٠,٣ امبير
To AMP REMOTE IN of an optinal power amplifier.
This connection is only for amplifiers.
Connecting any other system may damage the unit.
إلى مدخل AMP REMOTE لمضخم صوت اختياري.
هذه التوصيلة مخصصة فقط لاجهزة تضخيم الصوت
توصيل أي جهاز اخر قد يضر الوحدة
Left
يسار
White striped
مخطط بالابيض
Front speakers
السماعات الامامية
Right
يمين
Gray striped
مخطط بالرمادي
Left
يسار
Green striped
مخطط بالاخضر
Rear speakers
السماعات الخلفية
Right
يمين
Purple striped
مخطط بالبنفسجي
Light blue
ازرق فاتح
ATT
to the interface cable of a car telephone
الى كبل ربط هاتف السيارة
Blue
ازرق
ANT REM
Max. supply current 0.1 A
القصى إمداد للتيار ٠,١ امبير
to the power aerial control lead or power supply lead of aerial booster amplifier
<Note> If you do not use a power aerial, or aerial booster, it is not necessary to connect this lead.
الى سلك التحكم في الهوائي الآلي او سلك الإمداد التلقائي لمضخم مؤازر الهوائي.
< ملاحظة> عند عدم إستعمال هوائي القدرة او منشط الهوائي فلا داعي لتوصيل هذا السلك.
Red
احمر
to the +12 V power terminal which is energized in the accessory position on the ignition switch
Be sure to connect the black earth lead first.
الى طرف توصيل تيار ١٢ فولت موجب يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي (وضع الكماليات)
تاكد من توصيل سلك التاريض الاسود اولا
Yellow
اصفر
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead first.
الى طرف توصيل تيار ١٢ فولت موجب يسري فيه التيار باستمرار.
تاكد من توصيل سلك التاريض الاسود اولاً
Black
اسود
to a metal point of the car
First connect the black earth lead, then connect the yellow and red power input leads.
الى نقطة معدنية في السيارة
قم اولاً بتوصيل سلك التاريض الاسود. ثم قم بتوصيل اسلاك دخل التيار الاصفر والاحمر.

Notes on the control leads

- The power aerial control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (AutomaticTuner Activation)Function.
- A power aerial without a relay box cannot be used with this unit.

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection

- Before connecting the speakers, turn the unit off.
- Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.
- Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.
- Do not attempt to connect the speakers in parallel.
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.

ملاحظات حول اسلاك التحكم

- *سلك التحكم في الهوائي الآلي (ازرق) يقوم بإمداد تيار مباشر ١٢ فولت موجب عندما تقوم بتشغيل الدفاية او عندما تقوم بتشغيل وظيفة ATA (التشغيل التلقائي بالمؤقت)*
- *لا يمكن استعمال هوائي آلي بدون صندوق ترحيل مع هذه الوحدة*

توصيلة حفظ الذاكرة

عند توصيل سلك دخل التيار الاصفر، يتم إمداد التيار بصورة مستمرة الى دائرة الذاكرة حتى اثناء إيقاف مفتاح تشغيل المحرك.

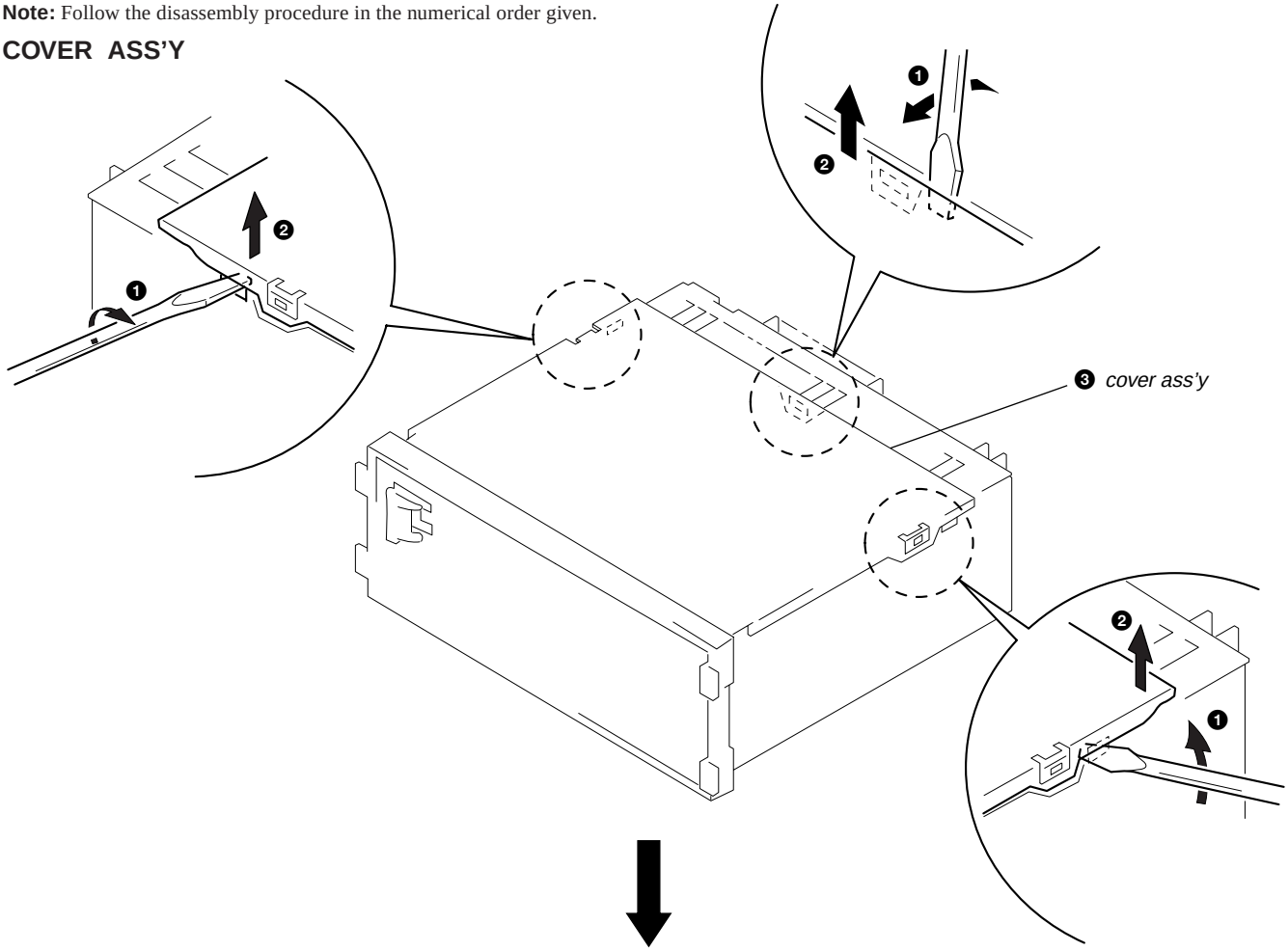
ملاحظات حول توصيل السماعات

- *قبل توصيل السماعات، اوقف تشغيل الوحدة.*
- *إستعمل سماعات بمعاوقة من ٤ الى ٨ اوم وسعة تحمل قدرة مناسبة. اذا لم تفعل ذلك فقد تتلف السماعات.*
- *لا تعمد الى توصيل اطراف توصيل نظام السماعات بشاسي السيارة ولا الى توصيل اطراف توصيل السماعات اليمنى باطراف توصيل السماعات اليسرى.*
- *لا تحاول توصيل السماعات على التوازي.*
- *لا تعمد الى توصيل اي سماعات نشطة (مجهزة بمضخمات داخلية) باطراف توصيل السماعات في الوحدة. يمكن لمثل هذا العمل ان يتلف السماعات النشطة. لذا تاكد من توصيل سماعات غير نشطة بتلك الاطراف.*

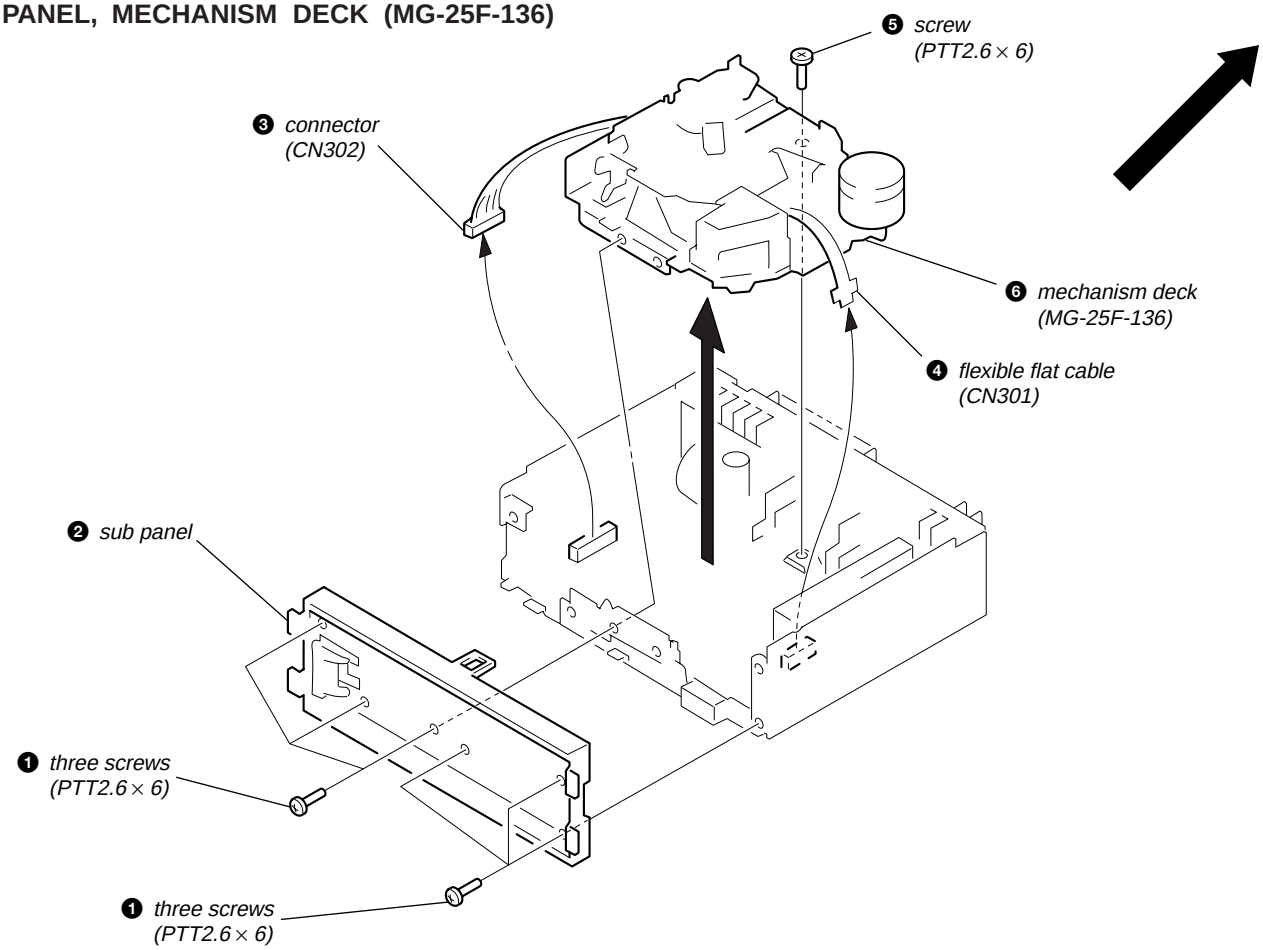
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

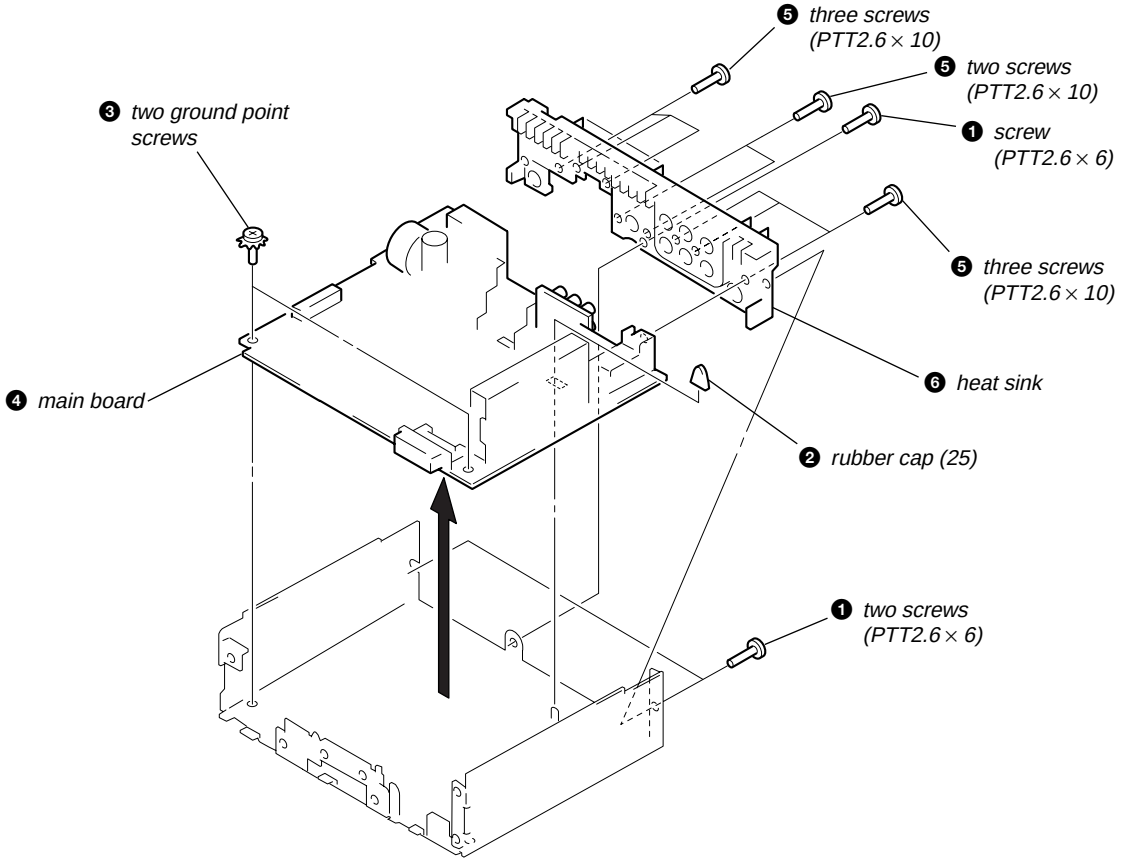
COVER ASS'Y



SUB PANEL, MECHANISM DECK (MG-25F-136)


❺ screw (PTT2.6 × 6)
❸ connector (CN302)
❻ mechanism deck (MG-25F-136)
❹ flexible flat cable (CN301)
❷ sub panel
❶ three screws (PTT2.6 × 6)
❶ three screws (PTT2.6 × 6)

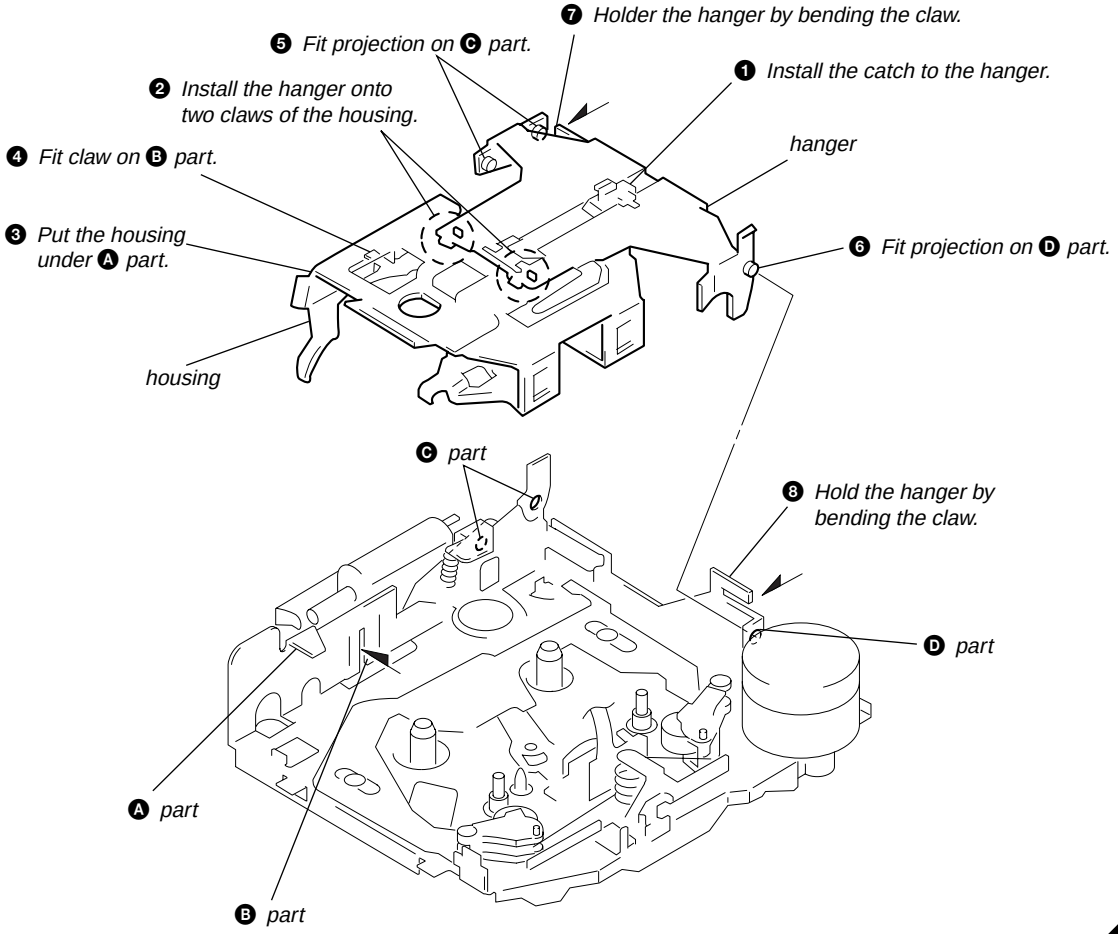
MAIN BOARD, HEAT SINK


❺ three screws (PTT2.6 × 10)
❺ two screws (PTT2.6 × 10)
❶ screw (PTT2.6 × 6)
❸ two ground point screws
❺ three screws (PTT2.6 × 10)
❻ heat sink
❹ main board
❷ rubber cap (25)
❶ two screws (PTT2.6 × 6)

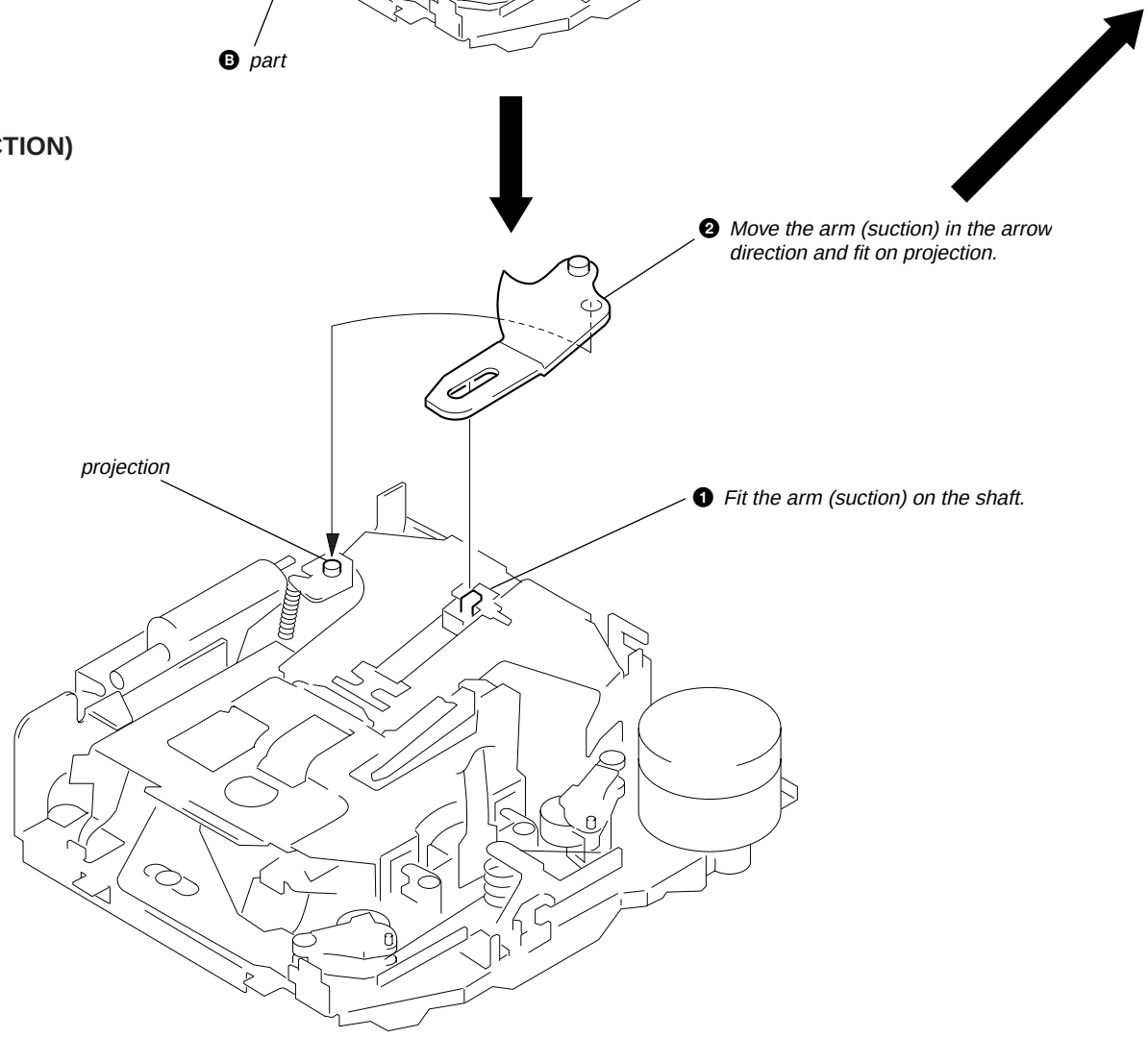
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note: Follow the assembly procedure in the numerical order given.

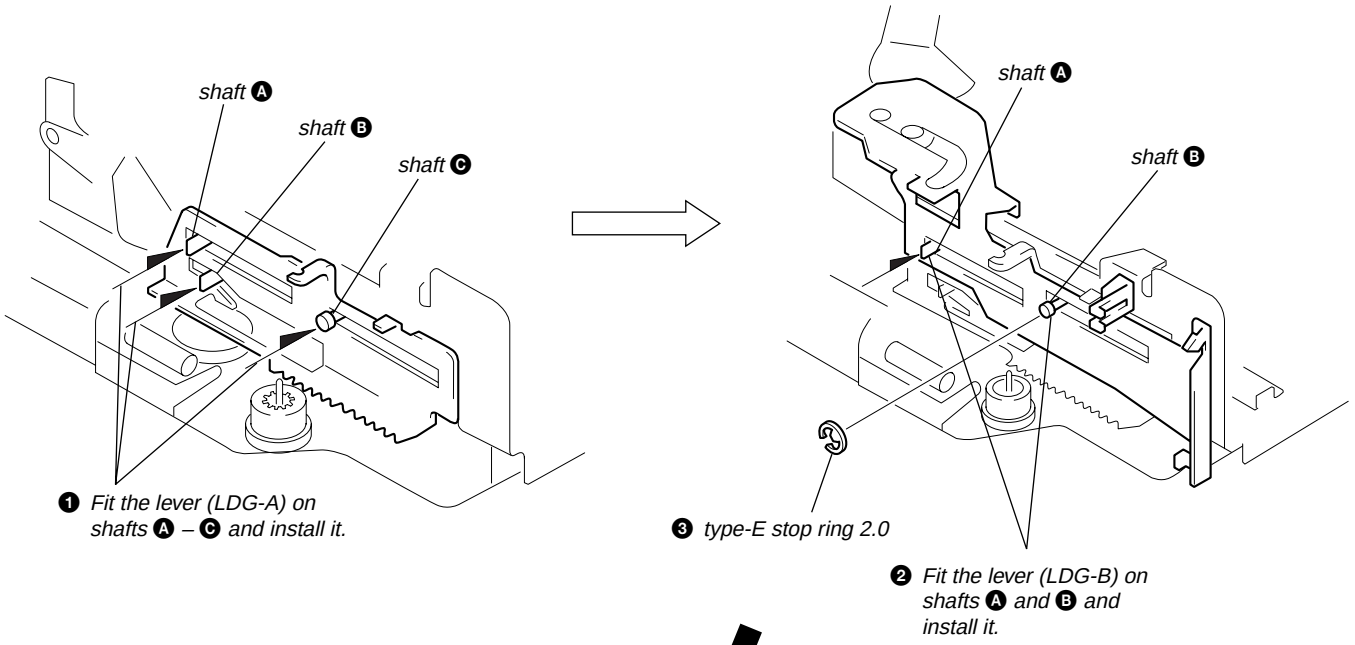
HOUSING


❼ Holder the hanger by bending the claw.
❺ Fit projection on Ⓒ part.
❶ Install the catch to the hanger.
❷ Install the hanger onto two claws of the housing.
hanger
❹ Fit claw on Ⓑ part.
❸ Put the housing under Ⓐ part.
❻ Fit projection on Ⓓ part.
housing
Ⓒ part
❽ Hold the hanger by bending the claw.
Ⓓ part
Ⓐ part
Ⓑ part

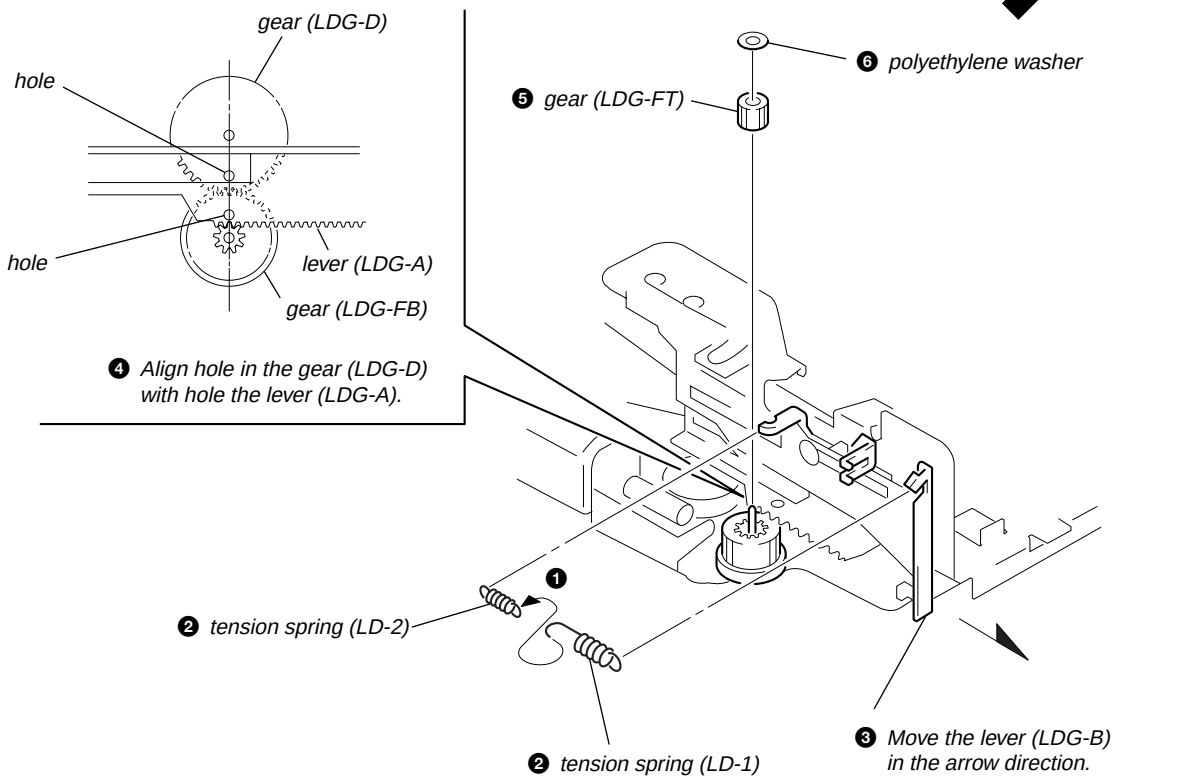
ARM (SUCTION)



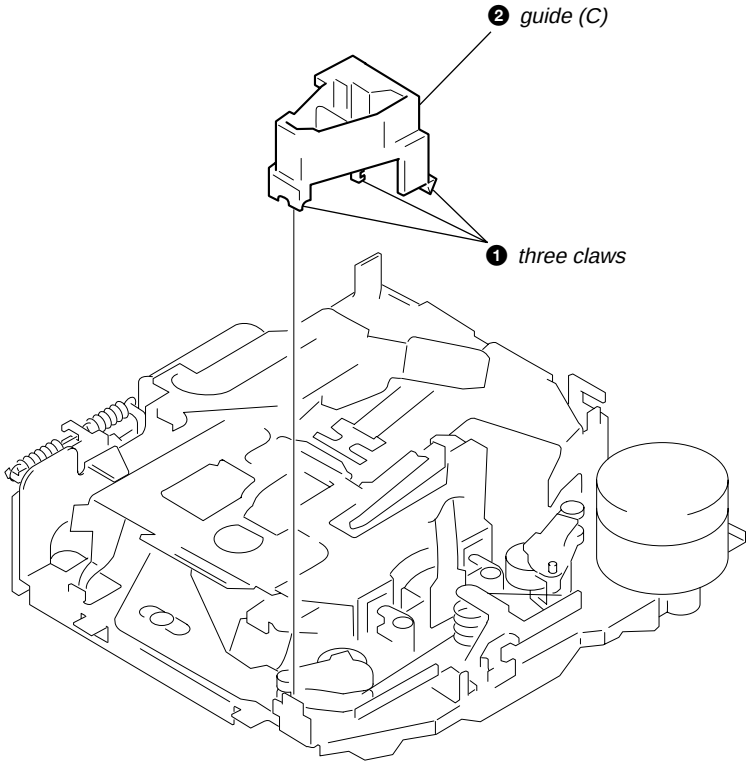
LEVER (LDG-A) / (LDG-B)


shaft Ⓐ
shaft Ⓑ
shaft Ⓒ
❶ Fit the lever (LDG-A) on shafts Ⓐ – Ⓒ and install it.
shaft Ⓐ
shaft Ⓑ
❸ type-E stop ring 2.0
❷ Fit the lever (LDG-B) on shafts Ⓐ and Ⓑ and install it.

GEAR (LDG-FT)



GUIDE (C)



SECTION 4
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   rubber belt capstan
   idlers
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	30 - 65 g•cm (0.42 - 0.90 oz•inch)
Forward Back Tension	CQ-102C	0.5 - 4.5 g•cm (0.01 - 0.06 oz•inch)
Reverse	CQ-102RC	30 - 65 g•cm (0.42 - 0.90 oz•inch)
Reverse Back Tension	CQ-102RC	0.5 - 4.5 g•cm (0.01 - 0.06 oz•inch)
FF, REW	CQ-201B	60 - 200 g•cm (0.83 - 2.78 oz•inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 90 g (more than 3.18 oz)
Reverse	CQ-403R	more than 90 g (more than 3.18 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "power select" switch (S501) is "A (ON)" position.
2. Turn ON the regulated power supply. (All LEDs on the set lights up, and the clock is displayed.)
   Note: Press the [OFF] button, if the clock is not displayed.
3. Push the preset [4] button.
4. Push the preset [5] button.
5. Press the preset [1] button for more than two seconds.
6. Then the display indicates all lights, the test mode is set.

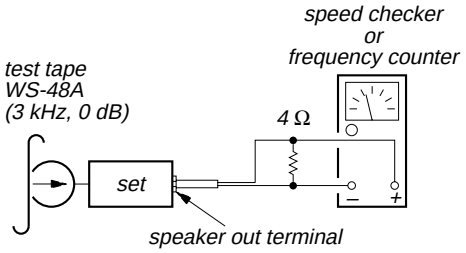
<Release the Test mode>
1. Push the [OFF] button.
2. Return the "power select" switch (S501) to initially set position.

See the adjustment location from on page 16 for the adjustment.

TAPE DECK SECTION | 0 dB=0.775 V

Tape Speed Adjustment

Setting:



Procedure:
1. Put the set into the FWD PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification: Constant speed

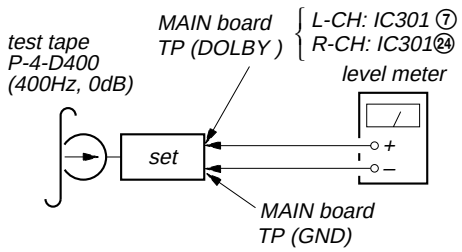
Speed checker	Frequency counter
–1.5 to +2.5%	2,955 to 3,075 Hz

Adjustment Location: See page 16.

Dolby Level Adjustment

Setting:

Preset [3] (DOLBY) button	: NR OFF
SEL (BAS) button	: Center
SEL (TRE) button	: Center
SEL (BAL) button	: Center
SEL (FAD) button	: Center
SEL (VOL) button	: Maximum
D-BASS control	: OFF



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust RV231 (L-CH) and RV131 (R-CH) so that the level meter reading is –6±1 dB (0.35 to 0.44 V).

Adjustment Location: See page 16.

TUNER SECTION

0 dB=1 µV

Cautions during repair

When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

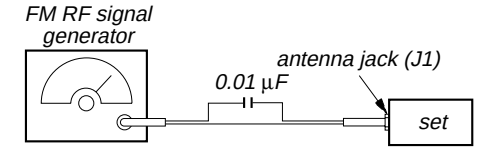
Note: Adjust the tuner section in the sequence shown below.

1. FM Auto Scan/Stop Level Adjustment
2. FM Noise Focus Adjustment
3. FM Stereo Separation Adjustment
4. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting:

[SOURCE] button: FM
FREQUENCY SELECT switch: FM50 k



Carrier frequency : 98.0 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation

Procedure:

1. Set to the test mode. (See page 13.)
2. Push the [SOURCE] button and set to FM.

Display

3. Adjust with the volume RV2 on TU1 so that the "FM" indication turns to "FM0" indication on the display window.
   But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

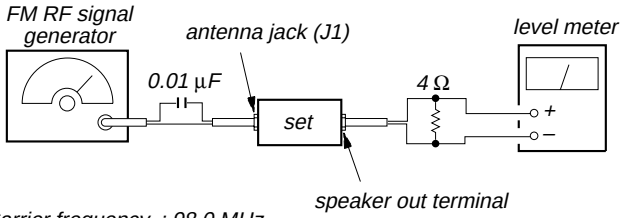
Display

Adjustment Location: See page 16.

FM Noise Focus Adjustment

Setting:

SOURCE button : FM
FREQUENCY SELECT switch : FM 50 k



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100%)

Procedure:

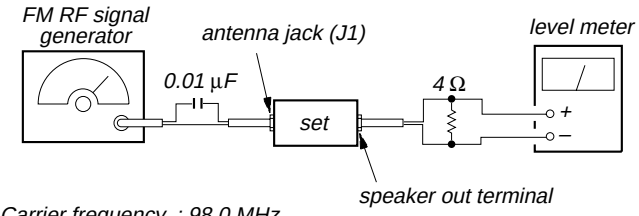
1. Tune the 98.0 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A) –32 dB then signal generator input set to –20 dB.

Adjustment Location: See page 16.

FM Stereo Separation Adjustment

Setting:

SOURCE button : FM
FREQUENCY SELECT switch : FM 50 k



Carrier frequency : 98.0 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main: 1 kHz, 33.75 kHz deviation (45%)
sub: 1 kHz, 33.75 kHz deviation (45%)
19 kHz pilot: 7.5 kHz deviation (10%)

Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

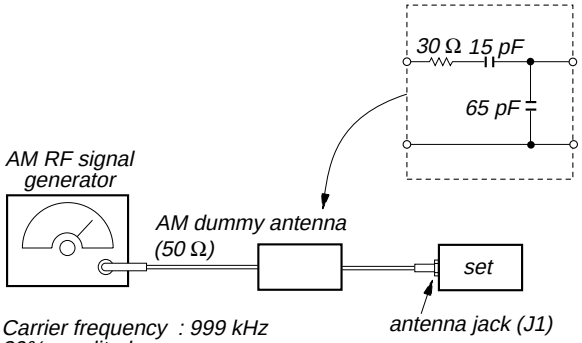
Specification: Separation more than 30 dB

Adjustment Location: See page 16.

MW Auto Scan/Stop Level Adjustment

Setting:

SOURCE and MODE button : MW
FREQUENCY SELECT switch : MW 9 k

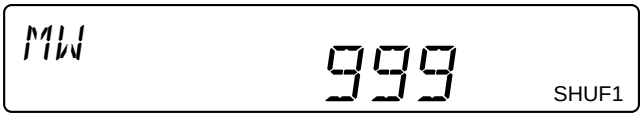


Carrier frequency : 999 kHz
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 µV)

Procedure:

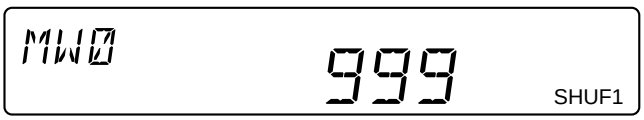
1. Set to the test mode. (See page 13.)
2. Push the SOURCE button and set to FM.
3. Push the MODE button and set to MW.

Display



4. Adjust with the volume RV1 on TU1 so that the "MW" indication turns to "MW0" indication on the display window.
   But, in case of already indicated "MW0", turn the RV1 so that put out light "0" indication and adjustment.

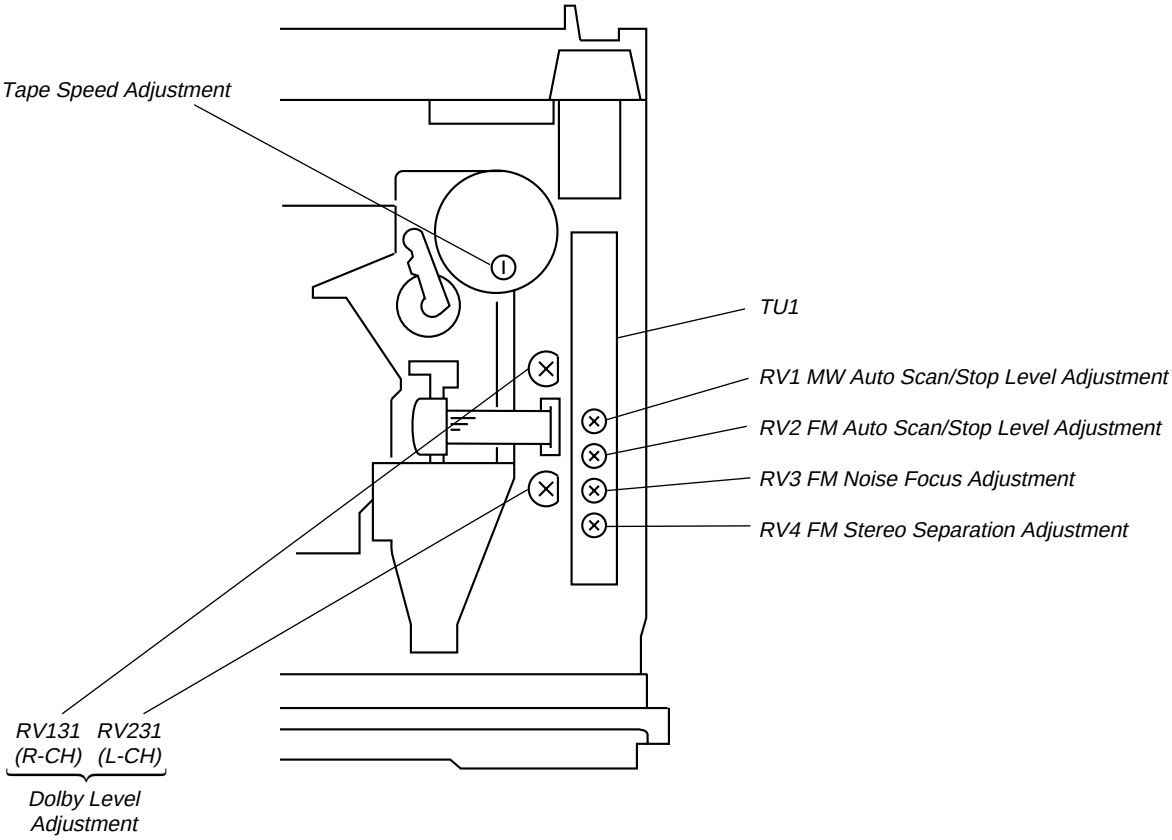
Display



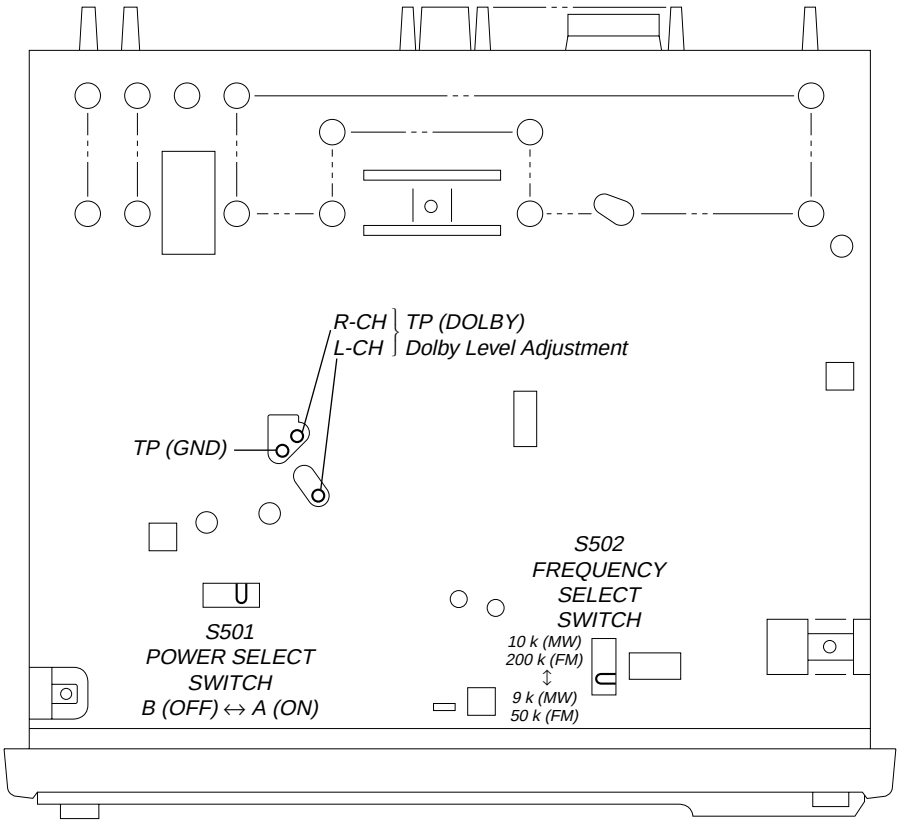
Adjustment Location: See page 16.

Adjustment Location:

– SET UPPER VIEW –



– SET BOTTOM VIEW –



SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 μPD78058GC-F58-3B9 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	DSEL	I	Destination setting terminal Frequency select switch (S502) input in this set "L": MW 9k step or FM 50k step, "H": MW 10k step or FM 200k step
2	RC IN0	I	Rotary remote commander shift key A/D input terminal
3	SD IN	I	Station detector detect input from the FM/AM tuner unit (TU1) Stop level for SEEK, BTM, etc. is determined SD is present at input of "H"
4	AVSS	—	Ground terminal (for A/D converter)
5	$\overline{\text{ST}}$	I/O	Input of FM stereo detection signal from FM/AM tuner unit (TU1), and output of forced monaural control signal to FM/AM tuner unit (TU1) (Commonly used for stereo display input and forced monaural output) FM stereo detection at input of "L", forced monaural at output of "L"
6	PLLCE	O	PLL serial chip enable output to the FM/AM PLL (IC1)
7	AVREF1	I	Reference voltage (+5V) input terminal (for D/A converter)
8	PLLSI	I	PLL serial data input from the FM/AM PLL (IC1)
9	PLLSO	O	PLL serial data output to the FM/AM PLL (IC1)
10	PLLCKO	O	PLL serial data transfer clock signal output to the FM/AM PLL (IC1)
11	P-STIN	I	Polar stereo signal input terminal Not used (fixed at "H")
12	LCDSO	O	Serial data output to the liquid crystal display driver (IC901)
13	LCDCKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC901)
14	LCDCE	O	Chip enable output to the liquid crystal display driver (IC901)
15	$\overline{\text{LCDINH}}$	O	Blank indicate control signal output to the liquid crystal display driver (IC901) "L": no display
16	UNISI	I	Serial data input from the bus interface (IC701) (for SONY bus)
17	UNISO	O	Serial data output to the bus interface (IC701) (for SONY bus)
18	UNICKI	I	Serial data reading clock signal input terminal (for SONY bus)
19	UNICKO	O	Serial data transfer clock signal output to the bus interface (IC701) (for SONY bus)
20	$\overline{\text{BUSON}}$	O	Bus on/off control signal output to the bus interface (IC701) (for SONY bus) "L": bus on
21	$\overline{\text{SYSRST}}$	O	Reset signal output to the bus interface (IC701) (for SONY bus) "L": reset
22	AMPON	O	Standby control signal output to the power amplifier (IC611) "L": standby
23	$\overline{\text{AMP MUT}}$	O	Muting control signal output to the power amplifier (IC611) "L": muting on
24	TUNON	O	Tuner system power supply on/off control signal output to the BA3918 (IC671) "H": tuner on
25	FM ON	O	FM system power supply on/off control signal output to the BA3918 (IC671) "H": FM on
26	PW ON	O	Main system power supply on/off control signal output to the BA3918 (IC671) "H": power on
27	COLOR	I	Input terminal to set whether the illumination color change function is present or not "L": illumination color change function is present (fixed at "L" in this set)
28	$\overline{\text{AMSON}}$	O	Tape auto music sensor control signal output to the CXA2510AQ (IC301) "L" is output to lower the gain for audio level at FF/REW
29	REL	I	Reel table rotation detect signal input from the take-up and supply reel sensor
30	$\overline{\text{MTLIN}}$	I	Input terminal to set whether the auto metal function is present or not "L": auto metal function is present Not used this function in this set (fixed at "H")
31	POS3	I	Tape position detect input from the tape operation switch on the mechanism block
32	POS2	I	
33	GND	—	Ground terminal
34	POS0	I	Tape position detect input from the tape operation switch on the mechanism block
35	POS1	I	
36	LM LOD	O	Loading/tape operation motor control signal output to the LB1638M (IC361) (For the loading direction and forward side operation) *1

Pin No.	Pin Name	I/O	Function
37	LM EJ	O	Loading/tape operation motor control signal output to the LB1638M (IC361) (For the eject direction and reverse side operation) *1
38	$\overline{\text{N/R OUT}}$	O	Forward/reverse direction control signal output to the CXA2510AQ (IC301) "L: forward direction, "H": reverse direction
39	P.ON	O	Polar stereo detection signal output terminal "H": polar stereo Not used (open)
40	CM ON	O	Capstan/reel motor (M901) drive signal output terminal "H": motor on
41	TAPEON	O	Tape system power supply on/off control signal output terminal "H": tape on
42	COLSEL	I	Setting terminal for the illumination color "L": amber, "H": green (fixed at "H")
43	RC IN1	I	Rotary remote commander shift key A/D input terminal
44	$\overline{\text{TEST}}$	I	Setting terminal for the test mode "L": test mode (normally fixed at "H")
45	ILL ON	O	Power supply on/off control signal output terminal at the illumination and liquid crystal display driver (IC901) "H": power on At power select switch (S501) on mode: "H" output at the accessory on At power select switch (S501) off mode: "H" output at the power on
46	BEEP	O	Beep sound signal output terminal
47	MUT	O	Line muting control signal output terminal "H": line muting on
48	VOLCE	O	Chip enable signal output to the electrical volume (IC161)
49	SUBCE	O	Chip enable signal output terminal Not used in this set (open)
50	VOLCKO	O	Serial data transfer clock signal output to the electrical volume (IC161)
51	SUBCKO	O	Serial data transfer clock signal output terminal Not used in this set (open)
52	VOLSO	O	Serial data output to the electrical volume (IC161)
53	TAPMUT	O	Tape muting on/off control signal output to the CXA2510AQ (IC301) "H": tape muting on
54	DOLON	I/O	Dolby control in/out terminal At initial mode: valid/invalid selection input of dolby function ("L" input: valid) At normal mode: dolby on/off control signal output to the CXA2510AQ (IC301) "H": dolby on
55	DOLBC	I/O	Dolby B/C selection control in/out terminal At initial mode: dolby B only/dolby B and C type selection input ("L" input: dolby B and C) At normal mode: dolby type selection signal output "L": dolby B, "H": dolby C Not used this function (fixed at "H")
56	$\overline{\text{AMSIN}}$	I	Whether a music is present or not from CXA2510AQ (IC301) is detected at auto music sensor "L": music is present, "H": music is not present
57	MTLSEL	I/O	METAL control in/out terminal At initial mode: auto/manual mode selection input of METAL function "L": manual mode At manual mode: METAL on/off control signal output to the CXA2510AQ (IC301) "H": METAL on At auto mode: input at $\overline{\text{MTLIN}}$ (pin ㉚)
58	$\overline{\text{AD ON}}$	O	Power supply on/off control signal output for the A/D converter "L": power on
59	RAMBU	I	Internal RAM reset detection signal input from the RN5VD23AA (IC651) Input terminal to check that RAM data are not destroyed due to low voltage This checking is made within 100 msec after reset
60	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC652) and reset switch (S503) "L" is input for several 100 msec after power on, then it changes to "H"
61	SIRCS	I	Sircs signal input from the remote control receiver (IC902)
62	BU IN	I	Battery detect signal input terminal "H": battery on
63	PW SEL	I	Power select switch (S501) input terminal "L": off (halt mode), "H": on (operation mode)
64	$\overline{\text{ACCIN}}$	I	Accessory detect signal input terminal "L": accessory on
65	$\overline{\text{NOSESW}}$	I	Detects the removal of the attaching and removing type front panel block "L": attaching
66	$\overline{\text{TELMUT}}$	I	Telephone muting signal input terminal At input of "L", the signal is attenuated by –20 dB

Pin No.	Pin Name	I/O	Function
67	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of "H"
68	VDD	—	Power supply terminal (+5V)
69	X OUT	O	Main system clock output terminal (5 MHz)
70	X IN	I	Main system clock input terminal (5 MHz)
71	GND	—	Ground terminal
72	XT OUT	O	Sub system clock output terminal (32.768 kHz)
73	XT IN	I	Sub system clock input terminal (32.768 kHz)
74	AVDD	—	Power supply terminal (+5V) (for A/D converter)
75	AVREF0	I	Reference voltage input terminal (+5V) (for A/D converter)
76	KEYIN0	I	Key input terminal (A/D input) OFF, SOURCE, MODE ◀II▶, SEEK AMS + ▶▶I ▶▶, SEEK AMS I◀◀ ◀◀ –, VOLUME –, SEL, VOLUME +, DSPL, ATT keys input (LSW901 to LSW910)
77	KEYIN1	I	Key input terminal (A/D input) ⏏, INTRO 1, REPEAT 2, SHUF/□□ 3, BL SKIP 6, ATA 5, BANK/MTL 4, BTM LCL, FILE, PRESET DISC +/– keys input (LSW921 to LSW931)
78	D-BASS	I	D-BASS switch (SW951) input (A/D input)
79	VSM	I	FM and AM signal meter voltage detection input from the FM/AM tuner unit (TU1)
80	KEYSEL	I	Setting terminal for the key (fixed at "L")

*1 loading/tape operation motor control

MODE / TERMINAL	STOP	LOADING/ FORWARD	EJECT/ REVERSE	BRAKE
LM LOD (pin ㊱)	"L"	"H"	"L"	"H"
LM EJ (pin ㊲)	"L"	"L"	"H"	"H"

6-2. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAM

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- ▬ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW/SW
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : MW/SW
  Σ : TAPE PLAYBACK

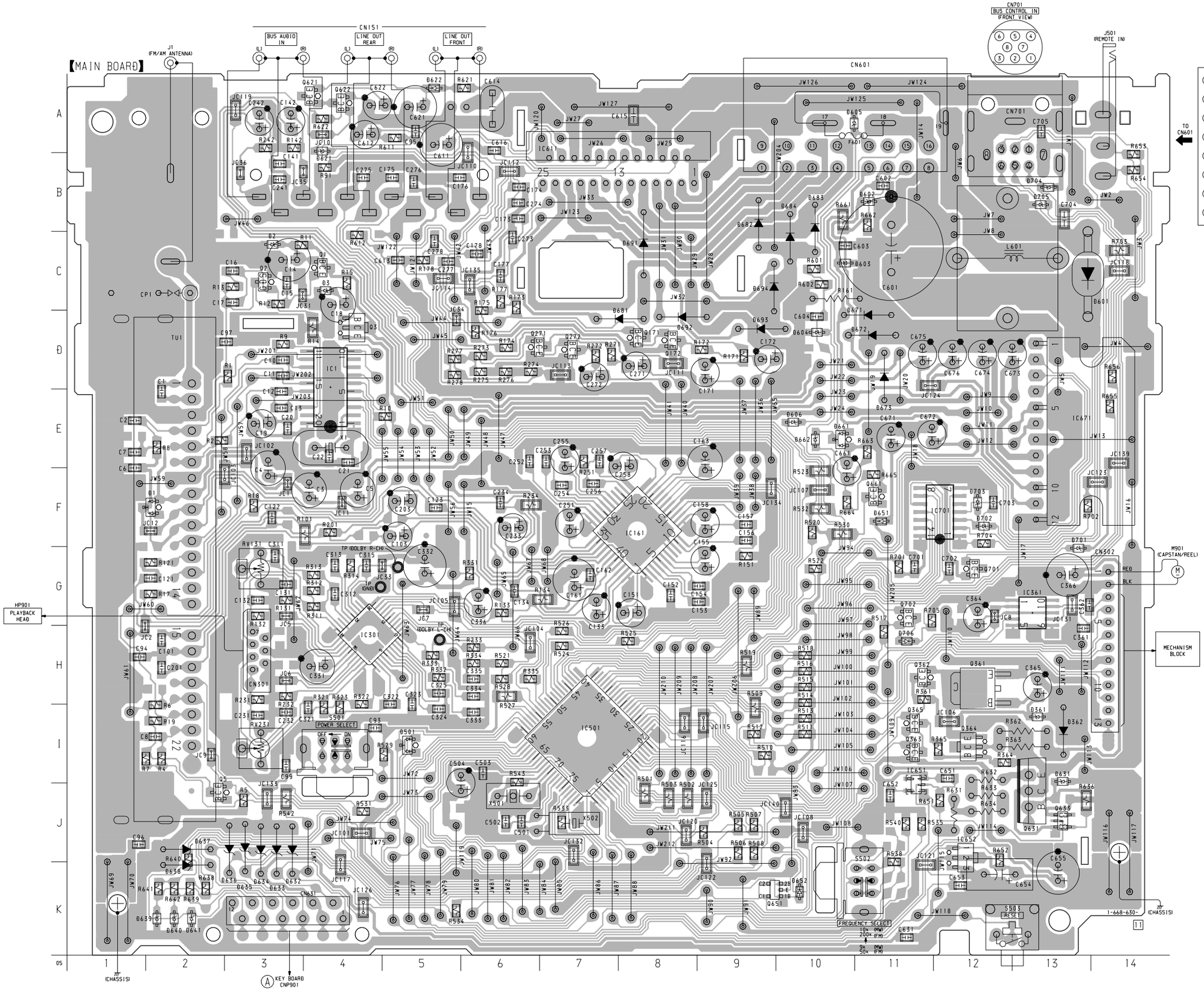
Note on Printed Wiring Boards:

- o——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

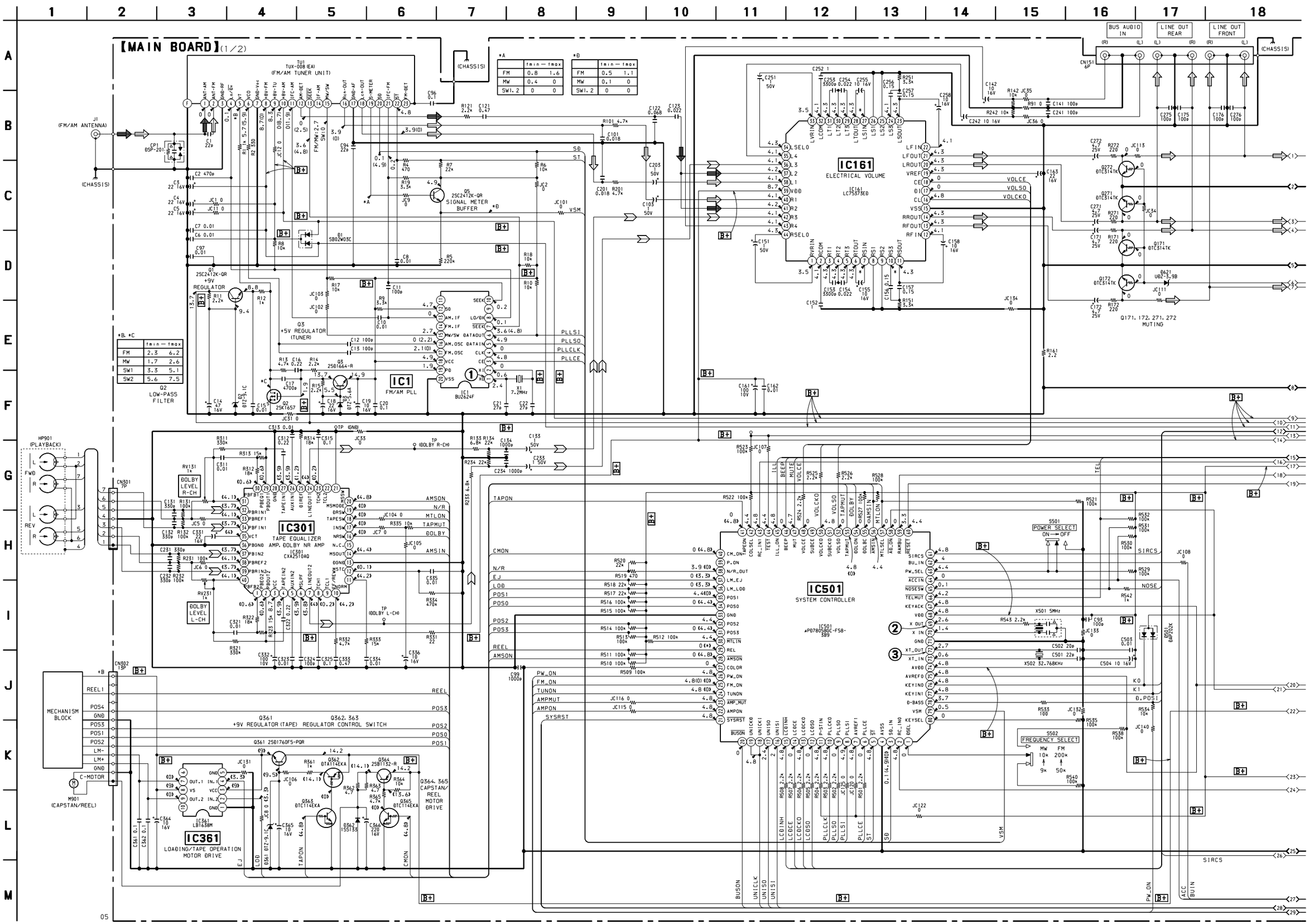
6-3. PRINTED WIRING BOARD – MAIN Section –



• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D1	F-2	D701	G-13
D2	C-3	D702	F-12
D3	C-4	D703	F-12
D361	I-13	D704	B-13
D362	I-13	D705	B-13
D501	I-5	D706	H-11
D601	C-13		
D602	B-11	IC1	D-4
D603	C-10	IC161	F-8
D604	D-10	IC301	H-4
D605	A-10	IC361	G-13
D606	E-10	IC501	I-7
D621	A-4	IC611	B-7
D622	A-5	IC651	J-11
D631	I-13	IC652	J-12
D632	J-3	IC671	E-13
D633	J-3	IC701	F-12
D634	J-3		
D635	J-3	Q1	C-4
D636	J-3	Q2	C-3
D637	J-2	Q3	D-4
D638	K-2	Q5	J-2
D639	K-2	Q171	D-8
D640	K-2	Q172	D-8
D641	K-2	Q271	D-6
D651	F-11	Q272	D-7
D652	K-10	Q361	H-12
D661	E-10	Q362	H-11
D662	E-10	Q363	I-11
D671	D-11	Q364	I-12
D672	D-11	Q365	I-11
D673	D-11	Q621	A-4
D681	D-8	Q622	A-4
D682	B-9	Q631	J-13
D683	B-10	Q633	J-13
D684	C-10	Q651	K-9
D691	C-8	Q661	F-11
D692	D-8	Q701	G-12
D693	D-9	Q702	G-11
D694	C-9		

6-4. SCHEMATIC DIAGRAM – MAIN Section (1/2) – • See page 31 and 32 for IC Block Diagrams.



6-5. SCHEMATIC DIAGRAM – MAIN Section (2/2) – • See page 32 for IC Block Diagramas.

【MAIN BOARD】(2/2)

IC611 POWER AMP

IC651 RESET SIGNAL GENERATOR (FOR INTERNAL RAM)

IC652 RESET SIGNAL GENERATOR (FOR SYSTEM RESET)

IC671 REGULATOR

IC701 BUS INTERFACE (FOR SONY BUS)

Q633 REGULATOR CONTROL SWITCH

Q621. 622 MUTING CONTROL SWITCH

Q661 ACCESSORY CHECK

Q702 SIRCS BUFFER

Q451 KEY ACTIVE SWITCH

CN601 16P

CN701 8P

CN701 BUS CONTROL IN

CN651 12P

KEY BOARD CNP901

J501 (REMOTE IN)

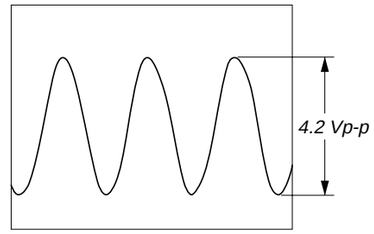
S503 RESET

F601 10A

L601

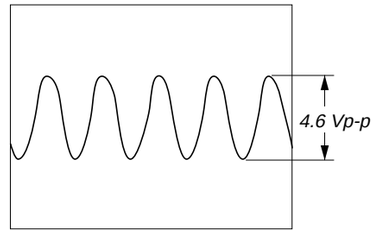
• Waveforms

❶ IC1 ① (XO)



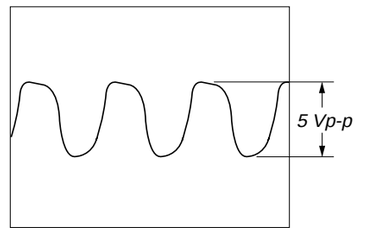
7.2 MHz

❷ IC501 ㊾ (XOUT)



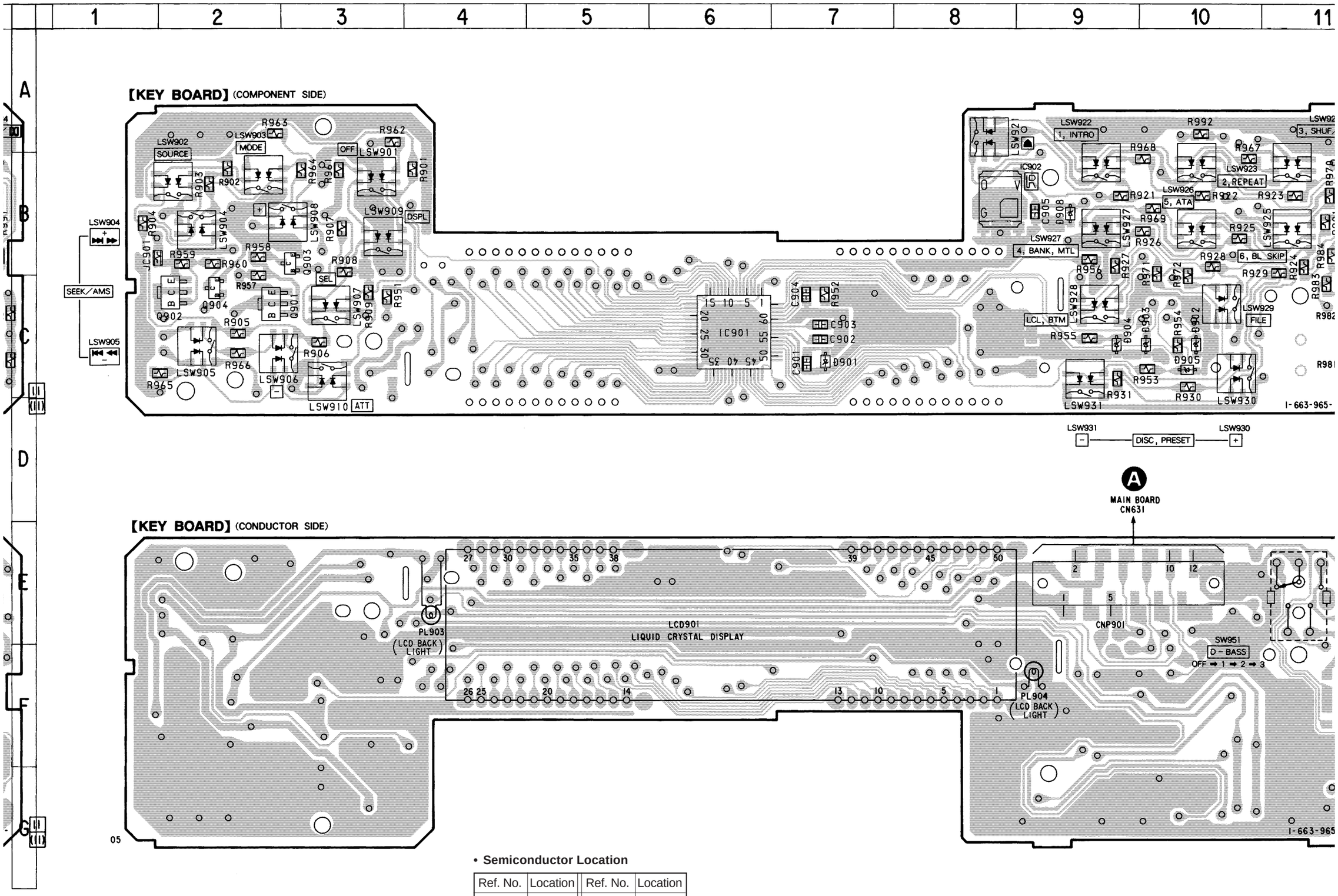
5 MHz

❸ IC501 ㉜ (XT_OUT)



32.768 kHz

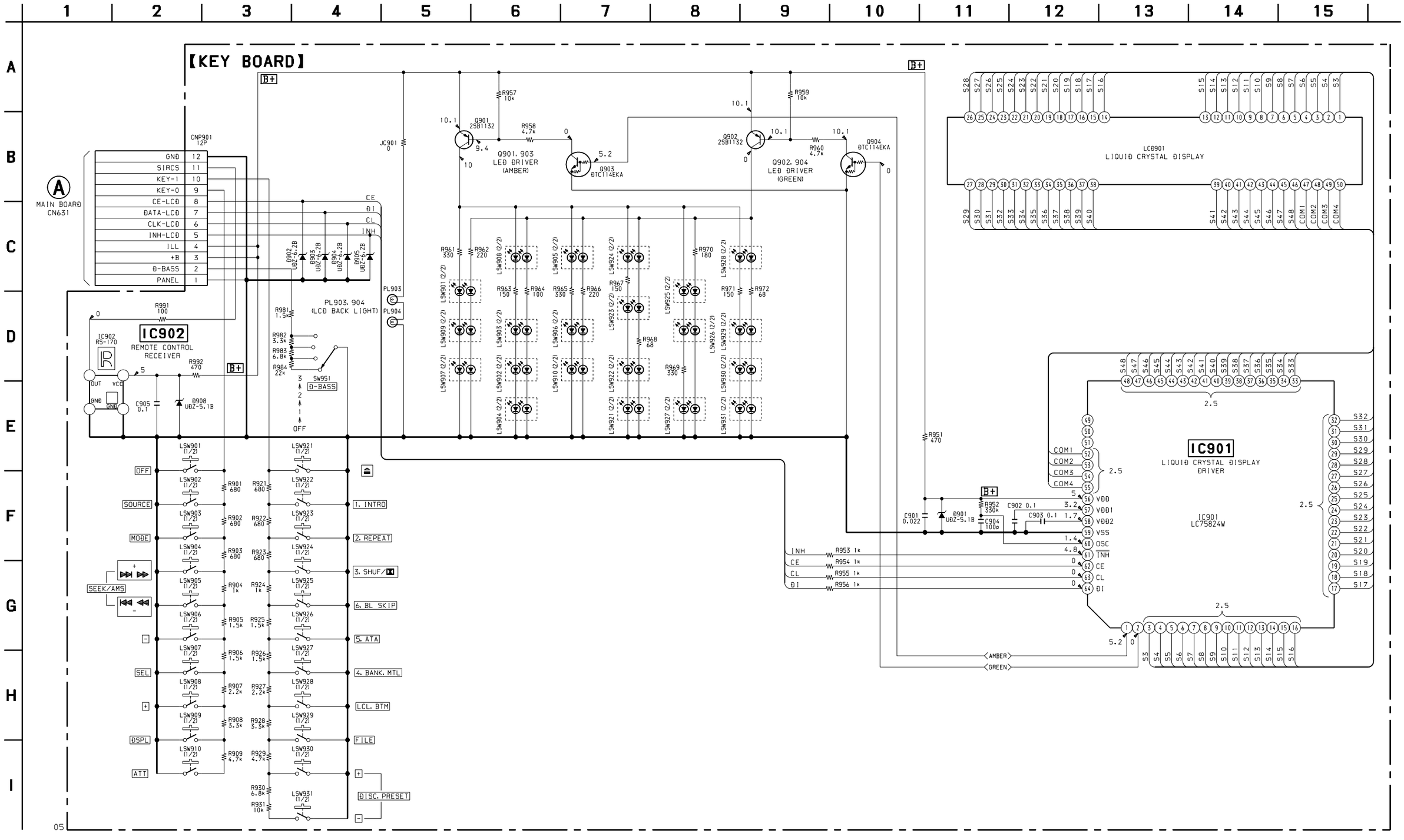
6-6. PRINTED WIRING BOARD – PANEL Section –



• **Semiconductor Location**

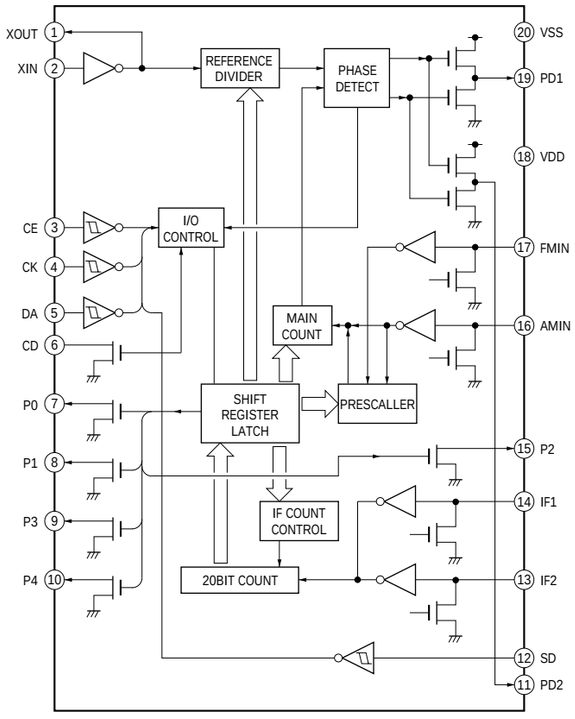
Ref. No.	Location	Ref. No.	Location
D901	C-7	IC901	C-6
D902	C-10	IC902	B-8
D903	C-10		
D904	C-9	Q901	C-2
D905	C-10	Q902	C-2
D908	B-9	Q903	B-3
		Q904	C-2

6-7. SCHEMATIC DIAGRAM – PANEL Section –

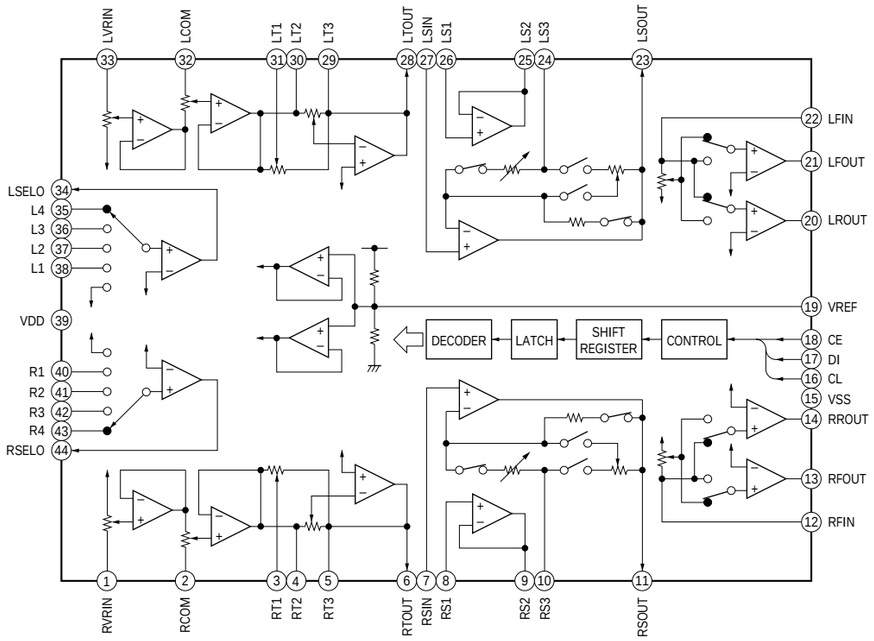


• IC Block Diagrams
– MAIN BOARD –

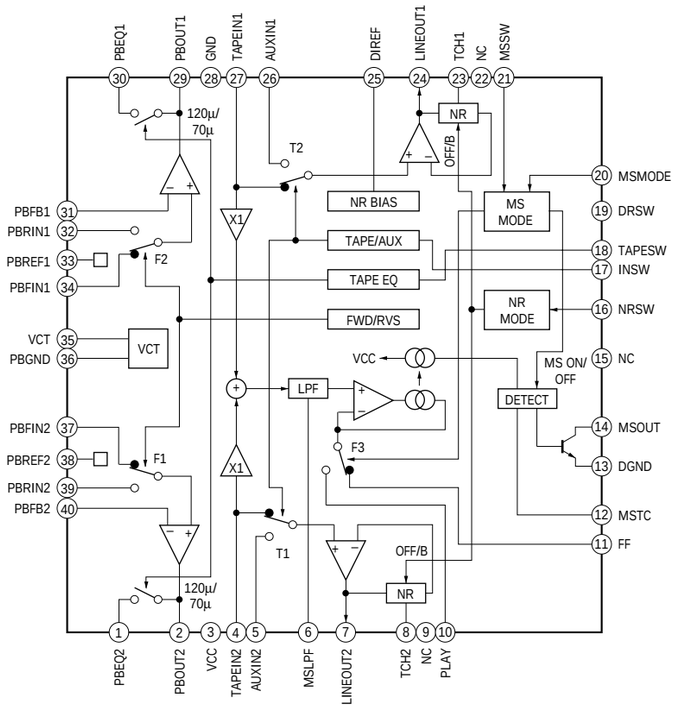
IC1 BU2624F-E2



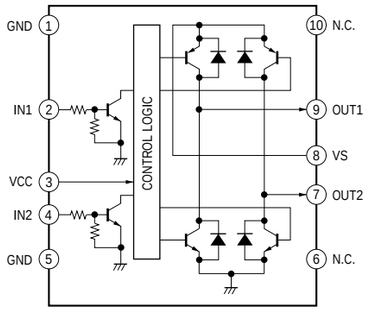
IC161 LC75373ED



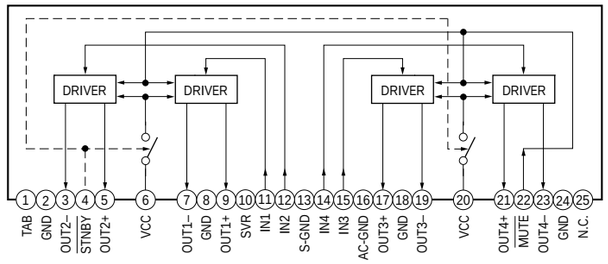
IC301 CXA2510AQ-T4



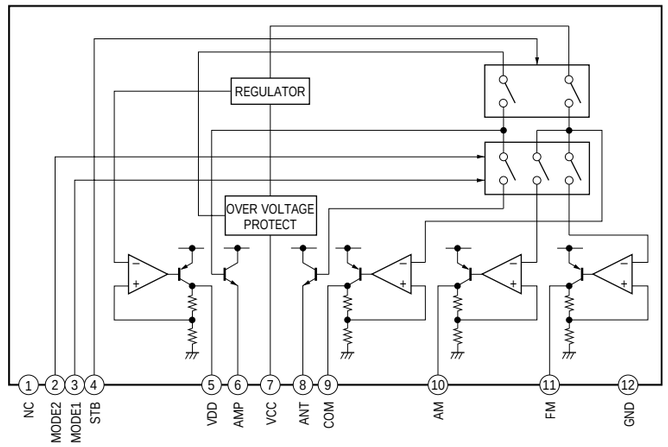
IC361 LB1638M



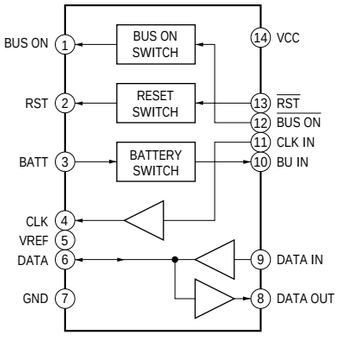
IC611 TDA7384



IC671 BA3918-V2



IC701 BA8270F-E2

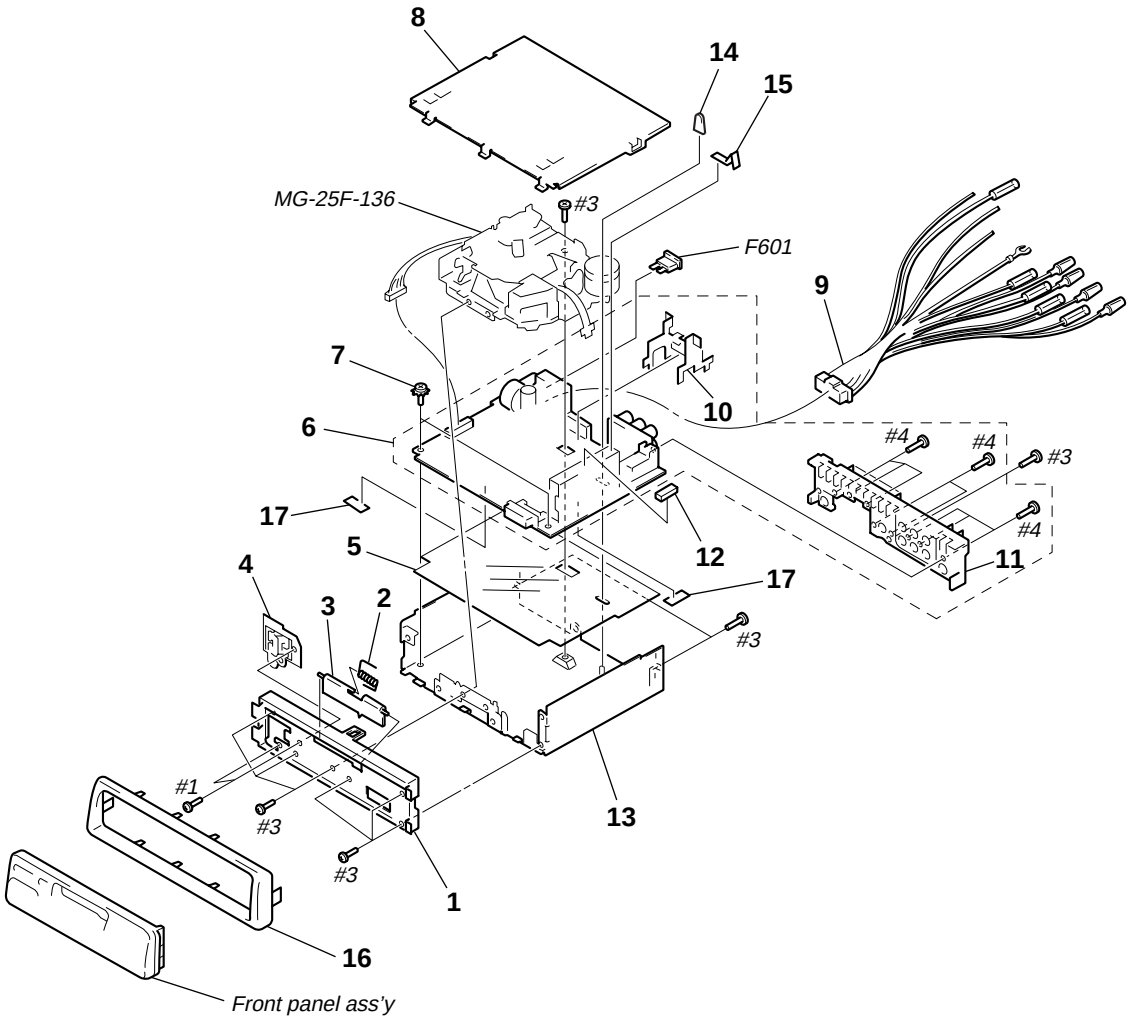


SECTION 7
EXPLODED VIEWS

NOTE:

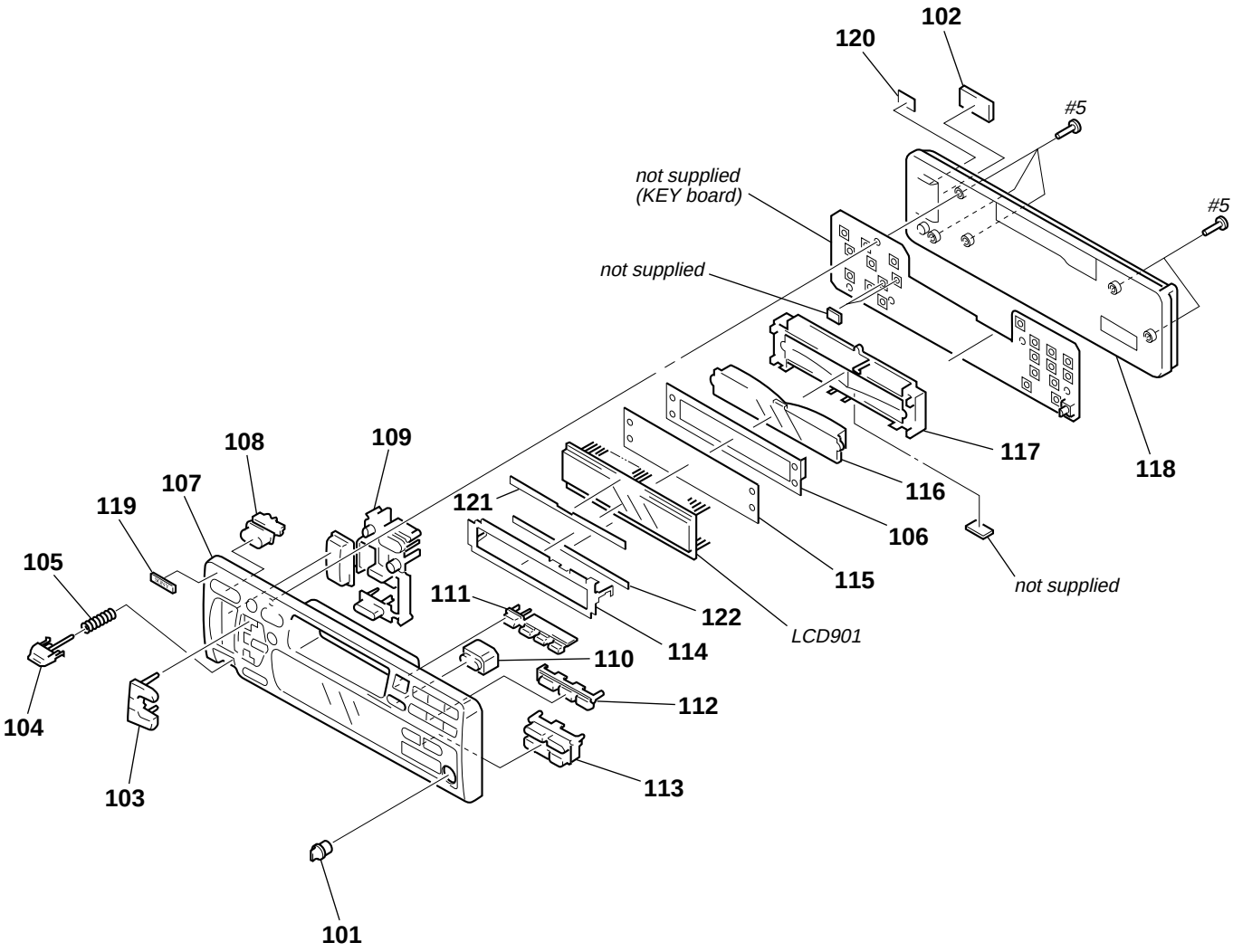
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) CHASSIS SECTION



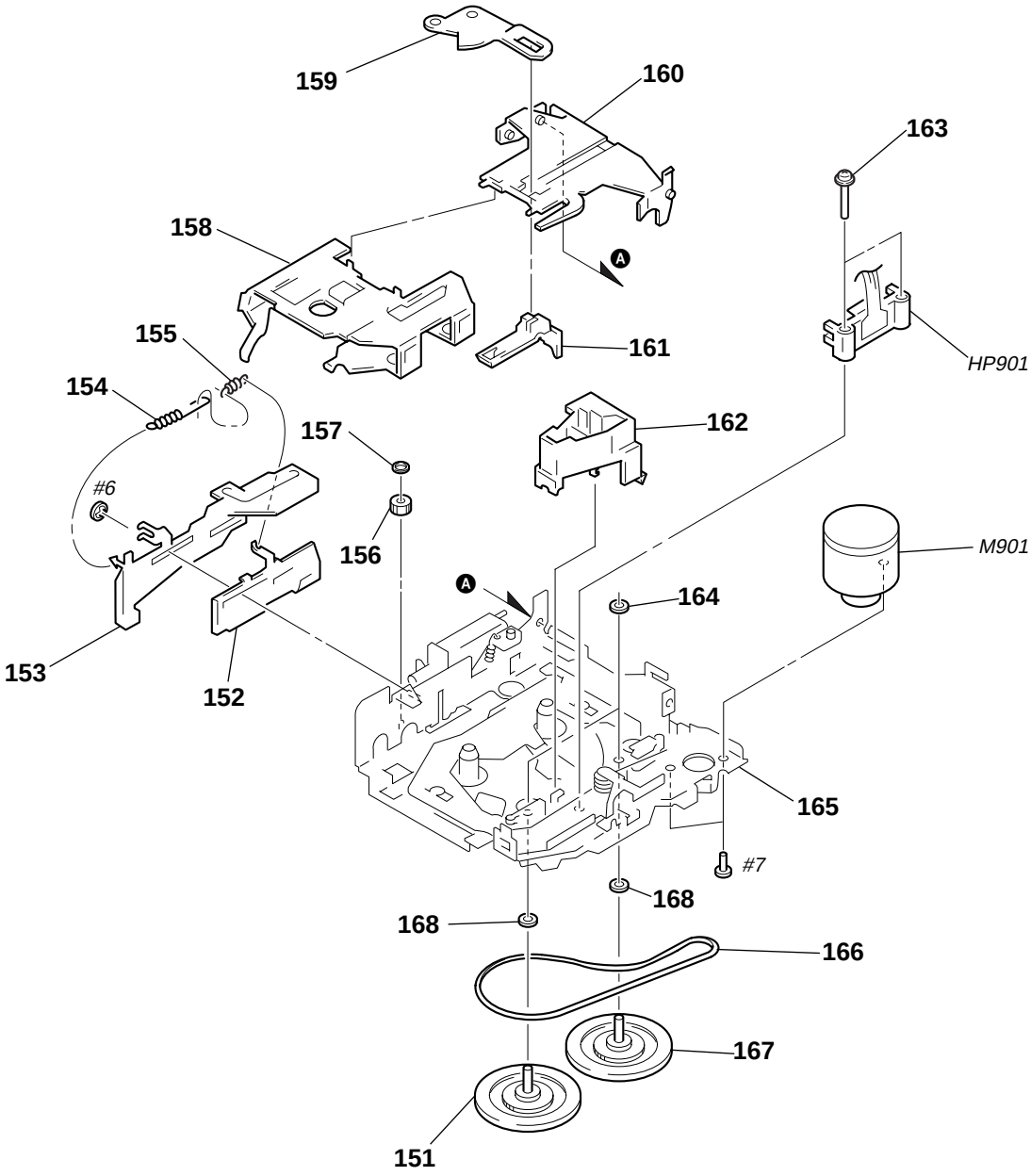
Ref. No.	Part No.	Description	Remark
1	3-018-383-01	PANEL, SUB	
2	3-935-003-01	SPRING, (C DOOR) TORSION	
3	3-922-165-41	DOOR, CASSETTE	
4	X-3367-636-1	LOCK ASSY	
* 5	3-015-409-01	SHEET, INSULATING	
* 6	A-3313-576-A	MAIN BOARD, COMPLETE	
7	3-915-923-01	SCREW, GROUND POINT	
* 8	X-3373-751-1	COVER ASSY	
9	1-776-207-82	CORD (WITH CONNECTOR) (POWER)	
* 10	3-018-390-01	BRACKET (IC)	
* 11	3-018-389-01	HEAT SINK	
12	3-338-263-01	CUSHION (U)	
* 13	3-009-810-01	CHASSIS	
14	3-012-859-01	CAP (25), RUBBER	
15	3-360-123-01	PLATE (C), GROUND	
16	3-018-384-01	COLLAR	
* 17	3-015-663-01	SPACER	
F601	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	3-018-799-01	BUTTON (D-BASS)	
* 102	3-015-038-01	CUSHION (BACK PANEL)	
103	3-016-932-01	BUTTON (L) (2) (+. –)	
104	3-017-103-01	BUTTON (RELEASE)	
105	3-918-693-01	SPRING (RELEASE)	
* 106	3-019-149-01	PLATE, LCD	
107	X-3375-274-1	PANEL SUB ASSY	
108	3-009-300-01	BUTTON (SOURCE)	
109	3-018-658-01	BUTTON (L) (+ ▶▶I ▶▶. SEEK AMS. I◀◀ ◀◀ –. MODE. OFF. DSPL. SEL. ATT)	
110	3-022-459-01	LENS	
111	3-016-933-01	BUTTON (1-3) (⏏. 1. 2. 3)	
112	3-016-931-11	BUTTON (4-6) (4. 5. 6)	
113	3-016-935-01	BUTTON (R) (L) (LCL. FILE. –. DISC. +)	
* 114	3-019-151-01	PLATE (LCD), GROUND	
* 115	3-019-150-01	SHEET (REFLECTOR)	
* 116	3-018-612-01	PLATE, LIGHT GUIDE	
* 117	3-018-611-01	HOLDER (LCD)	
118	3-009-295-01	PANEL, FRONT BACK	
119	3-904-194-01	EMBLEM (NO. 2.5), SONY	
* 120	3-925-325-01	SPACER	
* 121	3-024-391-01	SHEET (LCD)	
* 122	3-024-846-01	SHEET (LCD) B	
LCD901	1-801-968-61	DISPLAY PANEL, LIQUID CRYSTAL	

(3) MECHANISM DECK SECTION (MG-25F-136)



Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY	
* 152	3-019-130-01	LEVER (LDG-A)	
* 153	3-019-131-01	LEVER (LDG-B)	
154	3-020-539-01	SPRING (LD-1), TENSION	
155	3-020-540-01	SPRING (LD-2), TENSION	
156	3-020-542-01	GEAR (LOADING FT)	
157	3-341-753-11	WASHER, POLYETHYLENE	
158	3-020-533-01	HOUSING	
* 159	3-020-532-01	ARM (SUCTION)	
160	3-020-534-01	HANGER	

Ref. No.	Part No.	Description	Remark
161	3-933-346-01	CATCHER	
162	3-933-344-01	GUIDE (C)	
163	3-014-798-01	SCREW (HEAD), SPECIAL	
164	3-364-151-01	WASHER	
165	A-3301-267-A	CHASSIS ASSY (G)	
166	3-017-302-01	BELT (25)	
167	3-936-853-01	FLYWHEEL (F)	
168	3-701-437-21	WASHER	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

KEY

SECTION 8
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		**********			
*	3-018-611-01	HOLDER (LCD)			
*	3-018-612-01	PLATE, LIGHT GUIDE			
*	3-019-149-01	PLATE, LCD			
*	3-019-150-01	SHEET (REFLECTOR)			
*	3-019-151-01	PLATE (LCD), GROUND			
*	3-024-391-11	SHEET (LCD)			
*	3-024-846-01	SHEET (LCD) (B)			
		< CAPACITOR >			
C901	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C902	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C903	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C904	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C905	1-163-038-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CNP901	1-764-423-11	PIN, CONNECTOR 12P			
		< DIODE >			
D901	8-719-976-99	DIODE	DTZ5.1B		
D902	8-719-105-99	DIODE	RD6.2M-B1		
D903	8-719-105-99	DIODE	RD6.2M-B1		
D904	8-719-105-99	DIODE	RD6.2M-B1		
D905	8-719-105-99	DIODE	RD6.2M-B1		
D908	8-719-976-99	DIODE	DTZ5.1B		
		< IC >			
IC901	8-759-365-90	IC	LC75824W		
IC902	8-749-012-25	IC	RS-170-TU		
		< SHORT >			
JC901	1-216-295-00	SHORT	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD901	1-801-968-61	DISPLAY PANEL, LIQUID CRYSTAL			
		< SWITCH >			
LSW901	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW902	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW903	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (MODE)			
LSW904	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (+ ▶▶I ▶▶, SEEK/AMS)			
LSW905	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (– I◀◀ ◀◀, SEEK/AMS)			
LSW906	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (–)			
LSW907	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (SEL)			
LSW908	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (+)			
LSW909	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (DSPL)			
LSW910	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (ATT)			
LSW921	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (⏏)			
LSW922	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (1,INTRO)			
LSW923	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (2,REPEAT)			
LSW924	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (3,SHUF/□□)			
LSW925	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (6,BL SKIP)			
LSW926	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (5,ATA)			
LSW927	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (4,BANK,MTL)			
LSW928	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (LCL,BTM)			
LSW929	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (FILE)			
LSW930	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (+, DISC/PRESET)			
LSW931	1-762-620-11	SWITCH, KEY BOARD (WITH LED) (–, DISC/PRESET)			
		< PILOT LAMP >			
PL903	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)			
PL904	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)			
		< TRANSISTOR >			
Q901	8-729-106-60	TRANSISTOR	2SB1115A		
Q902	8-729-106-60	TRANSISTOR	2SB1115A		
Q903	8-729-900-53	TRANSISTOR	DTC114EK		
Q904	8-729-900-53	TRANSISTOR	DTC114EK		
		< RESISTOR >			
R901	1-216-045-00	METAL CHIP	680	5%	1/10W
R902	1-216-045-00	METAL CHIP	680	5%	1/10W
R903	1-216-045-00	METAL CHIP	680	5%	1/10W
R904	1-216-049-11	RES,CHIP	1K	5%	1/10W
R905	1-216-053-00	METAL CHIP	1.5K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R906	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R907	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R908	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R909	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R921	1-216-045-00	METAL CHIP	680	5%	1/10W
R922	1-216-045-00	METAL CHIP	680	5%	1/10W
R923	1-216-045-00	METAL CHIP	680	5%	1/10W
R924	1-216-049-11	RES,CHIP	1K	5%	1/10W
R925	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R926	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R927	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R928	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R929	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R930	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R931	1-216-073-00	METAL CHIP	10K	5%	1/10W
R951	1-216-041-00	METAL CHIP	470	5%	1/10W
R952	1-216-109-00	METAL CHIP	330K	5%	1/10W
R953	1-216-049-11	RES,CHIP	1K	5%	1/10W
R954	1-216-049-11	RES,CHIP	1K	5%	1/10W
R955	1-216-049-11	RES,CHIP	1K	5%	1/10W
R956	1-216-049-11	RES,CHIP	1K	5%	1/10W
R957	1-216-073-00	METAL CHIP	10K	5%	1/10W
R958	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R959	1-216-073-00	METAL CHIP	10K	5%	1/10W
R960	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R961	1-216-037-00	METAL CHIP	330	5%	1/10W
R962	1-216-033-00	METAL CHIP	220	5%	1/10W
R963	1-216-029-00	METAL CHIP	150	5%	1/10W
R964	1-216-025-00	RES,CHIP	100	5%	1/10W
R965	1-216-037-00	METAL CHIP	330	5%	1/10W
R966	1-216-033-00	METAL CHIP	220	5%	1/10W
R967	1-216-029-00	METAL CHIP	150	5%	1/10W
R968	1-216-021-00	METAL CHIP	68	5%	1/10W
R969	1-216-037-00	METAL CHIP	330	5%	1/10W
R970	1-216-031-00	METAL CHIP	180	5%	1/10W
R971	1-216-029-00	METAL CHIP	150	5%	1/10W
R972	1-216-021-00	METAL CHIP	68	5%	1/10W
R981	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R982	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R983	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R984	1-216-081-00	METAL CHIP	22K	5%	1/10W
R991	1-216-025-00	RES,CHIP	100	5%	1/10W
R992	1-216-041-00	METAL CHIP	470	5%	1/10W
		< SWITCH >			
SW951	1-762-937-11	SWITCH, ROTARY (D-BASS)			
**********					
*	A-3313-576-A	MAIN BOARD, COMPLETE			
		**********			
*	3-018-389-11	HEAT SINK			
*	3-018-390-01	BRACKET (IC)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3	1-124-234-00	ELECT	22uF	20%	16V
C4	1-124-234-00	ELECT	22uF	20%	16V
C5	1-124-234-00	ELECT	22uF	20%	16V
C6	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C7	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C8	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C11	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C12	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C13	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C14	1-124-589-11	ELECT	47uF	20%	16V
C15	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C16	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C17	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C18	1-124-234-00	ELECT	22uF	20%	16V
C19	1-126-157-11	ELECT	10uF	20%	16V
C20	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C21	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C22	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C93	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C94	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C95	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C96	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C97	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C99	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C101	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C103	1-126-301-11	ELECT	1uF	20%	50V
C121	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C122	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C123	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C131	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C132	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C133	1-126-301-11	ELECT	1uF	20%	50V
C134	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C141	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C142	1-126-157-11	ELECT	10uF	20%	16V
C151	1-126-301-11	ELECT	1uF	20%	50V
C152	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C153	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C154	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C155	1-126-157-11	ELECT	10uF	20%	16V
C156	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C157	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C158	1-126-157-11	ELECT	10uF	20%	16V
C161	1-124-584-00	ELECT	100uF	20%	10V
C162	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C163	1-124-234-00	ELECT	22uF	20%	16V
C171	1-126-163-11	ELECT	4.7uF	20%	50V
C172	1-126-163-11	ELECT	4.7uF	20%	50V
C173	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C174	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C175	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C176	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C177	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C178	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C201	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C203	1-126-301-11	ELECT	1uF	20%	50V
C231	1-163-263-11	CERAMIC CHIP	330PF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C232	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C233	1-126-301-11	ELECT	1uF	20%	50V
C234	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C241	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C242	1-126-157-11	ELECT	10uF	20%	16V
C251	1-126-301-11	ELECT	1uF	20%	50V
C252	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C253	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C254	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C255	1-126-157-11	ELECT	10uF	20%	16V
C256	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C257	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C258	1-126-157-11	ELECT	10uF	20%	16V
C271	1-126-163-11	ELECT	4.7uF	20%	50V
C272	1-126-163-11	ELECT	4.7uF	20%	50V
C273	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C274	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C275	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C276	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C277	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C278	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C311	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C312	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C313	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C315	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C321	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C322	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C323	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C324	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C325	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C331	1-124-234-00	ELECT	22uF	20%	16V
C332	1-124-584-00	ELECT	100uF	20%	10V
C333	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C334	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C335	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C336	1-126-157-11	ELECT	10uF	20%	16V
C361	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C362	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C364	1-126-157-11	ELECT	10uF	20%	16V
C365	1-126-157-11	ELECT	10uF	20%	16V
C366	1-126-934-11	ELECT	220uF	20%	16V
C501	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C502	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C503	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C504	1-126-157-11	ELECT	10uF	20%	16V
C601	1-126-937-11	ELECT	4700uF	20%	16V
C602	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C603	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C604	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C611	1-124-589-11	ELECT	47uF	20%	16V
C612	1-126-157-11	ELECT	10uF	20%	16V
C613	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C614	1-136-165-00	FILM	0.1uF	5%	50V
C615	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C616	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C621	1-124-589-11	ELECT	47uF	20%	16V
C622	1-126-161-11	ELECT	2.2uF	20%	50V

Ref. No.	Part No.	Description			Remark
C631	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C651	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C652	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C653	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C654	1-125-710-11	DOUBLE LAYER	0.1F		5.5V
C655	1-124-584-00	ELECT	100uF	20%	10V
C661	1-126-163-11	ELECT	4.7uF	20%	50V
C671	1-126-157-11	ELECT	10uF	20%	16V
C672	1-126-157-11	ELECT	10uF	20%	16V
C673	1-126-157-11	ELECT	10uF	20%	16V
C674	1-126-157-11	ELECT	10uF	20%	16V
C675	1-126-157-11	ELECT	10uF	20%	16V
C676	1-126-157-11	ELECT	10uF	20%	16V
C701	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C702	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C703	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C704	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C705	1-164-232-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR/JACK >			
CN151	1-774-700-11	JACK, PIN 6P (BUS AUDIO IN, LINE OUT FRONT/REAR)			
CN301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P			
* CN302	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P			
CN601	1-774-701-11	PIN, CONNECTOR 16P			
CN631	1-764-422-11	PLUG, CONNECTOR 12P			
CN701	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
		< COMPOSITION CIRCUIT BLOCK >			
* CP1	1-517-422-11	GAP, SPARK			
		< DIODE >			
D1	8-719-991-65	DIODE SB02W03C			
D2	8-719-977-25	DIODE DTZ9.1C			
D3	8-719-977-02	DIODE DTZ-TT11-5.6A			
D361	8-719-977-25	DIODE DTZ9.1C			
D362	8-719-991-33	DIODE 1SS133T-77			
D501	8-719-914-44	DIODE DAP202K			
D601	8-719-049-38	DIODE 1N5404TU			
D602	8-719-977-69	DIODE DTZ24B			
D603	8-719-977-69	DIODE DTZ24B			
D604	8-719-105-99	DIODE RD6.2M-B1			
D605	8-719-105-99	DIODE RD6.2M-B1			
D606	8-719-988-62	DIODE 1SS355			
D621	8-719-422-12	DIODE MA8039			
D622	8-719-988-62	DIODE 1SS355			
D631	8-719-158-49	DIODE RD12SB2			
D632	8-719-109-93	DIODE RD6.2ESB2			
D633	8-719-109-93	DIODE RD6.2ESB2			
D634	8-719-110-49	DIODE RD18ES-B2			
D635	8-719-109-93	DIODE RD6.2ESB2			
D636	8-719-109-93	DIODE RD6.2ESB2			
D637	8-719-109-93	DIODE RD6.2ESB2			
D638	8-719-109-93	DIODE RD6.2ESB2			
D639	8-719-105-99	DIODE RD6.2M-B1			
D640	8-719-105-99	DIODE RD6.2M-B1			
D641	8-719-105-99	DIODE RD6.2M-B1			

Ref. No.	Part No.	Description	Remark
D651	8-719-988-62	DIODE 1SS355	
D652	8-719-988-62	DIODE 1SS355	
D661	8-719-914-43	DIODE DAN202K	
D662	8-719-977-17	DIODE DTZ7.5C	
D671	8-719-200-82	DIODE 11ES2	
D672	8-719-200-82	DIODE 11ES2	
D673	8-719-200-82	DIODE 11ES2	
D681	8-719-200-82	DIODE 11ES2	
D682	8-719-200-82	DIODE 11ES2	
D683	8-719-200-82	DIODE 11ES2	
D684	8-719-200-82	DIODE 11ES2	
D691	8-719-200-82	DIODE 11ES2	
D692	8-719-200-82	DIODE 11ES2	
D693	8-719-200-82	DIODE 11ES2	
D694	8-719-200-82	DIODE 11ES2	
D701	8-719-056-93	DIODE UDZ-TE-17-18B	
D702	8-719-105-99	DIODE RD6.2M-B1	
D703	8-719-105-99	DIODE RD6.2M-B1	
D704	8-719-056-93	DIODE UDZ-TE-17-18B	
D705	8-719-056-93	DIODE UDZ-TE-17-18B	
D706	8-719-988-62	DIODE 1SS355	
		< IC >	
IC1	8-759-448-84	IC BU2624F-E2	
IC161	8-759-443-67	IC LC75373ED	
IC301	8-752-079-79	IC CXA2510AQ-T4	
IC361	8-759-823-87	IC LB1638M	
IC501	8-759-522-61	IC uPD78058GC-F58-3B9	
IC611	8-759-490-74	IC TDA7384	
IC651	8-759-344-91	IC RN5VD23AA-TL	
IC652	8-759-363-81	IC XC61AN4002PR	
IC671	8-759-347-49	IC BA3918-V2	
IC701	8-759-449-89	IC BA8270F-E2	
		< JACK >	
J1	1-764-808-14	JACK (FM/AM ANTENNA)	
J501	1-566-822-41	JACK (REMOTE IN)	
		< SHORT >	
JC1	1-216-295-00	SHORT 0	
JC2	1-216-295-00	SHORT 0	
JC5	1-216-295-00	SHORT 0	
JC6	1-216-295-00	SHORT 0	
JC7	1-216-295-00	SHORT 0	
JC8	1-216-295-00	SHORT 0	
JC9	1-216-295-00	SHORT 0	
JC10	1-216-295-00	SHORT 0	
JC11	1-216-295-00	SHORT 0	
JC12	1-216-295-00	SHORT 0	
JC31	1-216-295-00	SHORT 0	
JC33	1-216-295-00	SHORT 0	
JC34	1-216-295-00	SHORT 0	
JC35	1-216-295-00	SHORT 0	
JC36	1-216-295-00	SHORT 0	
JC101	1-216-296-00	SHORT 0	
JC102	1-216-296-00	SHORT 0	
JC103	1-216-296-00	SHORT 0	
JC104	1-216-296-00	SHORT 0	
JC105	1-216-296-00	SHORT 0	
JC106	1-216-296-00	SHORT 0	
JC107	1-216-296-00	SHORT 0	
JC108	1-216-296-00	SHORT 0	
JC110	1-216-296-00	SHORT 0	
JC111	1-216-296-00	SHORT 0	
JC112	1-216-296-00	SHORT 0	
JC113	1-216-296-00	SHORT 0	
JC114	1-216-296-00	SHORT 0	
JC115	1-216-296-00	SHORT 0	
JC116	1-216-296-00	SHORT 0	
JC117	1-216-296-00	SHORT 0	
JC118	1-216-296-00	SHORT 0	
JC119	1-216-296-00	SHORT 0	
JC120	1-216-296-00	SHORT 0	
JC121	1-216-296-00	SHORT 0	
JC122	1-216-296-00	SHORT 0	
JC123	1-216-296-00	SHORT 0	
JC124	1-216-296-00	SHORT 0	
JC125	1-216-296-00	SHORT 0	
JC126	1-216-296-00	SHORT 0	
JC131	1-216-296-00	SHORT 0	
JC132	1-216-296-00	SHORT 0	
JC133	1-216-296-00	SHORT 0	
JC134	1-216-296-00	SHORT 0	
JC135	1-216-296-00	SHORT 0	
JC139	1-216-296-00	SHORT 0	
JC140	1-216-296-00	SHORT 0	
		< COIL >	
L601	1-411-669-12	COIL, CHOKE	
		< TRANSISTOR >	
Q1	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2	8-729-021-94	FET 2SK1657-T1B	
Q3	8-729-106-68	TRANSISTOR 2SD1615A-GP	
Q5	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q171	8-729-920-21	TRANSISTOR DTC314TKH04	
Q172	8-729-920-21	TRANSISTOR DTC314TKH04	
Q271	8-729-920-21	TRANSISTOR DTC314TKH04	
Q272	8-729-920-21	TRANSISTOR DTC314TKH04	
Q361	8-729-921-48	TRANSISTOR 2SD1760F5-TRPQR	
Q362	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q363	8-729-900-53	TRANSISTOR DTC114EK	
Q364	8-729-106-60	TRANSISTOR 2SB1115A	
Q365	8-729-900-53	TRANSISTOR DTC114EK	
Q621	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q622	8-729-900-53	TRANSISTOR DTC114EK	
Q631	8-729-423-99	TRANSISTOR 2SD2137-OP	
Q633	8-729-020-67	TRANSISTOR XN1A312-TX	
Q651	8-729-024-31	TRANSISTOR XN1111-TX	
Q661	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q701	8-729-900-53	TRANSISTOR DTC114EK	
Q702	8-729-027-38	TRANSISTOR DTA144EKA-T146	

MAIN

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1	1-216-049-11	RES,CHIP	1K	5%	1/10W
R2	1-216-037-00	METAL CHIP	330	5%	1/10W
R4	1-216-041-00	METAL CHIP	470	5%	1/10W
R5	1-216-105-00	RES,CHIP	220K	5%	1/10W
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W
R7	1-216-081-00	METAL CHIP	22K	5%	1/10W
R8	1-216-073-00	METAL CHIP	10K	5%	1/10W
R9	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R10	1-216-073-00	METAL CHIP	10K	5%	1/10W
R11	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R12	1-216-049-11	RES,CHIP	1K	5%	1/10W
R13	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R14	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R15	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R17	1-216-073-00	METAL CHIP	10K	5%	1/10W
R18	1-216-073-00	METAL CHIP	10K	5%	1/10W
R19	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R91	1-216-295-00	SHORT	0		
R101	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R121	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R131	1-216-097-00	RES,CHIP	100K	5%	1/10W
R132	1-216-097-00	RES,CHIP	100K	5%	1/10W
R133	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R134	1-216-230-00	RES,CHIP	22K	5%	1/8W
R142	1-216-073-00	METAL CHIP	10K	5%	1/10W
R151	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R161	1-249-385-11	CARBON	2.2	5%	1/6W
R171	1-216-033-00	METAL CHIP	220	5%	1/10W
R172	1-216-033-00	METAL CHIP	220	5%	1/10W
R173	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R174	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R175	1-216-089-00	RES,CHIP	47K	5%	1/10W
R176	1-216-089-00	RES,CHIP	47K	5%	1/10W
R177	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R178	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R201	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R231	1-216-097-00	RES,CHIP	100K	5%	1/10W
R232	1-216-097-00	RES,CHIP	100K	5%	1/10W
R233	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R234	1-216-230-00	RES,CHIP	22K	5%	1/8W
R242	1-216-073-00	METAL CHIP	10K	5%	1/10W
R251	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R271	1-216-033-00	METAL CHIP	220	5%	1/10W
R272	1-216-033-00	METAL CHIP	220	5%	1/10W
R273	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R274	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R275	1-216-089-00	RES,CHIP	47K	5%	1/10W
R276	1-216-089-00	RES,CHIP	47K	5%	1/10W
R277	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R278	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R311	1-216-109-00	METAL CHIP	330K	5%	1/10W
R312	1-216-079-00	METAL CHIP	18K	5%	1/10W
R313	1-216-077-00	METAL CHIP	15K	5%	1/10W
R314	1-208-812-11	RES,CHIP	18K	2%	1/10W
R321	1-216-109-00	METAL CHIP	330K	5%	1/10W
R322	1-216-079-00	METAL CHIP	18K	5%	1/10W
R323	1-216-077-00	METAL CHIP	15K	5%	1/10W
R331	1-216-009-00	METAL CHIP	22	5%	1/10W
R332	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R333	1-216-077-00	METAL CHIP	15K	5%	1/10W
R334	1-216-113-00	METAL CHIP	470K	5%	1/10W
R335	1-216-073-00	METAL CHIP	10K	5%	1/10W
R361	1-216-049-11	RES,CHIP	1K	5%	1/10W
R362	1-249-389-11	CARBON	4.7	5%	1/4W
R363	1-249-389-11	CARBON	4.7	5%	1/4W
R364	1-216-073-00	METAL CHIP	10K	5%	1/10W
R365	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R501	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R502	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R503	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R504	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R506	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R507	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R508	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R509	1-216-246-00	RES,CHIP	100K	5%	1/8W
R510	1-216-097-00	RES,CHIP	100K	5%	1/10W
R511	1-216-097-00	RES,CHIP	100K	5%	1/10W
R512	1-216-097-00	RES,CHIP	100K	5%	1/10W
R513	1-216-097-00	RES,CHIP	100K	5%	1/10W
R514	1-216-097-00	RES,CHIP	100K	5%	1/10W
R515	1-216-097-00	RES,CHIP	100K	5%	1/10W
R516	1-216-097-00	RES,CHIP	100K	5%	1/10W
R517	1-216-081-00	METAL CHIP	22K	5%	1/10W
R518	1-216-081-00	METAL CHIP	22K	5%	1/10W
R519	1-216-190-00	RES,CHIP	470	5%	1/8W
R520	1-216-081-00	METAL CHIP	22K	5%	1/10W
R521	1-216-097-00	RES,CHIP	100K	5%	1/10W
R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R523	1-216-246-00	RES,CHIP	100K	5%	1/8W
R524	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R525	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R526	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R527	1-216-246-00	RES,CHIP	100K	5%	1/8W
R528	1-216-097-00	RES,CHIP	100K	5%	1/10W
R529	1-216-097-00	RES,CHIP	100K	5%	1/10W
R530	1-216-246-00	RES,CHIP	100K	5%	1/8W
R531	1-216-097-00	RES,CHIP	100K	5%	1/10W
R532	1-216-246-00	RES,CHIP	100K	5%	1/8W
R533	1-216-025-00	RES,CHIP	100	5%	1/10W
R534	1-208-806-11	RES,CHIP	10K	0.5%	1/10W
R535	1-216-097-00	RES,CHIP	100K	5%	1/10W
R538	1-216-097-00	RES,CHIP	100K	5%	1/10W
R540	1-216-097-00	RES,CHIP	100K	5%	1/10W
R542	1-216-198-00	RES,CHIP	1K	5%	1/8W
R543	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R601	1-216-049-11	RES,CHIP	1K	5%	1/10W
R602	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R611	1-216-073-00	METAL CHIP	10K	5%	1/10W
R612	1-216-089-00	RES,CHIP	47K	5%	1/10W
R621	1-216-017-00	RES,CHIP	47	5%	1/10W
R622	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R631	1-249-383-11	CARBON	1.5	5%	1/6W
R632	1-249-383-11	CARBON	1.5	5%	1/6W

Ref. No.	Part No.	Description			Remark
R633	1-249-383-11	CARBON	1.5	5%	1/6W
R634	1-249-383-11	CARBON	1.5	5%	1/6W
R636	1-216-186-00	RES,CHIP	330	5%	1/8W
R638	1-216-025-00	RES,CHIP	100	5%	1/10W
R639	1-216-025-00	RES,CHIP	100	5%	1/10W
R640	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R641	1-208-806-11	RES,CHIP	10K	0.5%	1/10W
R642	1-208-806-11	RES,CHIP	10K	0.5%	1/10W
R651	1-216-113-00	METAL CHIP	470K	5%	1/10W
R652	1-216-097-00	RES,CHIP	100K	5%	1/10W
R653	1-208-806-11	RES,CHIP	10K	0.5%	1/10W
R654	1-208-806-11	RES,CHIP	10K	0.5%	1/10W
R655	1-216-025-00	RES,CHIP	100	5%	1/10W
R656	1-216-025-00	RES,CHIP	100	5%	1/10W
R661	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R662	1-216-073-00	METAL CHIP	10K	5%	1/10W
R663	1-216-089-00	RES,CHIP	47K	5%	1/10W
R664	1-216-089-00	RES,CHIP	47K	5%	1/10W
R665	1-216-089-00	RES,CHIP	47K	5%	1/10W
R701	1-216-017-00	RES,CHIP	47	5%	1/10W
R702	1-216-073-00	METAL CHIP	10K	5%	1/10W
R703	1-216-174-00	RES,CHIP	100	5%	1/8W
R704	1-216-025-00	RES,CHIP	100	5%	1/10W
R705	1-216-089-00	RES,CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV131	1-238-597-11	RES, ADJ, CARBON 1K			
RV231	1-238-597-11	RES, ADJ, CARBON 1K			
		< SWITCH >			
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
S502	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)			
S503	1-692-431-21	SWITCH, TACTILE (RESET)			
		< TUNER UNIT >			
TU1	A-3282-019-A	TUX-008 (EA) (FM/MW/SW TUNER UNIT)			
		< VIBRATOR >			
X1	1-577-126-51	VIBRATOR, CRYSTAL (7.2MHz)			
X501	1-579-233-11	VIBRATOR, CERAMIC (5MHz)			
X502	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)			

****

MISCELLANEOUS
****

9	1-776-207-82	CORD (WITH CONNECTOR) (POWER)			
F601	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)			
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)			
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTN/REEL)			

****

****
HARDWARE LIST
****

#1	7-621-772-10	SCREW +B 2X4			
#3	7-685-792-09	SCREW +PTT 2.6X6 (S)			
#4	7-685-794-09	SCREW +PTT 2.6X10 (S)			
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT			
#6	7-624-104-04	STOP RING 2.0, TYPE-E			
#7	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3			

****

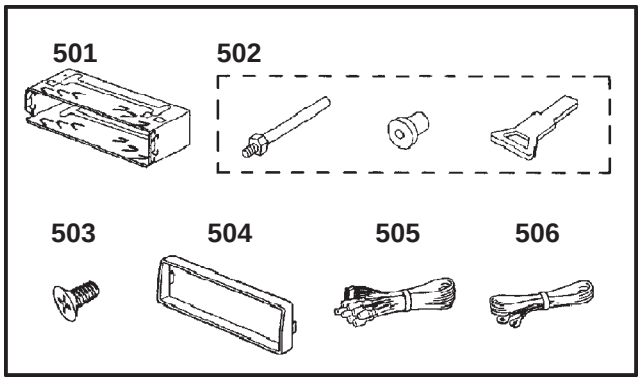
ACCESSORIES & PACKING MATERIALS
****

	1-467-559-91	REMOTE COMMANDER (RM-X47)
	3-861-735-11	MANUAL, INSTRUCTION (ENGLISH, ARABIC)
	3-861-736-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, ARABIC)
	9-939-081-01	LID, BATTERY (for RM-X47)
	X-3373-926-1	CASE ASSY (XR) (for FRONT PANEL)

****

PARTS FOR INSTALLATION AND CONNECTIONS
****

501	3-009-613-21	FRAME
502	X-3370-077-1	SCREW ASSY (AE. KEY), FITTING
503	3-934-325-01	SCREW, +K (5X8) TAPPING
504	3-018-384-01	COLLAR
505	1-776-207-82	CORD (WITH CONNECTOR) (POWER)
506	1-775-543-11	CORD, GROUND



Sony Corporation
Personal & Mobile Communication Company

9-925-901-11

98C05058-1
Printed in Japan © 1998.3
Published by Quality Assurance Dept.